

Introduction

Weinschel Associates has at its foundation a 50 year legacy as a supplier of high performance, high quality Broadband Passive Components to the RF and Microwave communities. WA builds on this foundation through the application of modern process and product technologies to continuously drive our product, price, and service performance.

At the core of our business are our proven Engineering and Manufacturing techniques. Refined methods of resistor manufacture produce better yields at higher accuracies with improved typical performance. This applies both to attenuation and VSWR versus frequency as well as low power and temperature coefficients. The process of deposition and ruggedness of our resistive films provide bilateral match for all units and bilateral high power input in many of our models.

Wrapped around this core is an aggressive and customer-focused business model. WA understands modern consumers of RF and Microwave Passive Components are less likely to be Microwave experts than in decades past and we are dedicated to helping our customers identify and acquire the optimum products.

Our goal is to serve you, the customer, with an ever increasing usefulness of product line. This catalogue provides a snapshot of our product offerings. We hope you will find what you require.

Catalog Table of Contents

Product Section	Page Number
Fixed Coaxial Attenuators	1
Coaxial Terminations	83
Resistive Power Splitters and Dividers	149
Variable Attenuators	168
Precision RF Adapters	172
Precision Attenuator Sets	200
DC Blocks	210
High-Reliability & Environment Qualified Components	223
Ordering Information	224

Please keep in mind new products are always in development and we would be delighted to discuss your requirements to help you find the best product for your application.

Mission Statement

Weinschel Associates designs and manufactures high-quality RF and Microwave products for commercial and military markets both domestic and international. Core technologies originated by founder Bruno Weinschel are leveraged using modern design, production, delivery, and service techniques to provide the best product at the best price to our customers. Our path to success hinges upon a continuous focus on product quality, price performance, and service.

A Tradition of Quality A Commitment to Service

Quality Policy

The Quality Policy of Weinschel Associates is as follows:

- To meet or exceed all requirements agreed to with our customers.
- To strive for continuous improvement in Product Quality, Price Performance, and Customer Service.

Quality Control

Our products are designed and tested to meet MIL-I-45208, MIL-Q-9858, MIL-C-45662 as they apply. Connector interface dimensions comply with MIL-PRF-39012, MIL-STD-348, and IEEE-STD-287. Attenuators are designed to meet MIL-DTL-3933. Terminations are designed to comply with MIL-DTL-39030.

RoHS Compliance

The RoHS directive (EU Directive 2002/95/EC) became valid on 1 July 2006 in the member states of the European Union. Its aim is to reduce a total of six substances from Electrical and Electronic Equipment (EEE), thereby contributing to the protection of human health and the environment.

Although RoHS is a European Union (EU) Directive, manufacturers of EEE outside Europe must also abide by this legislation if the equipment they produce is ultimately imported into an EU member state.

The RoHS directive restricts the use of certain hazardous substances commonly used in the manufacturing of electronic equipment and requires producers of electronic equipment to reduce the concentration of these hazardous materials, by July, 2006, to proscribed levels by weight.

Weinschel Associates aims to minimize environmental impacts due to our products and processes by systematically considering environmental issues during product design.

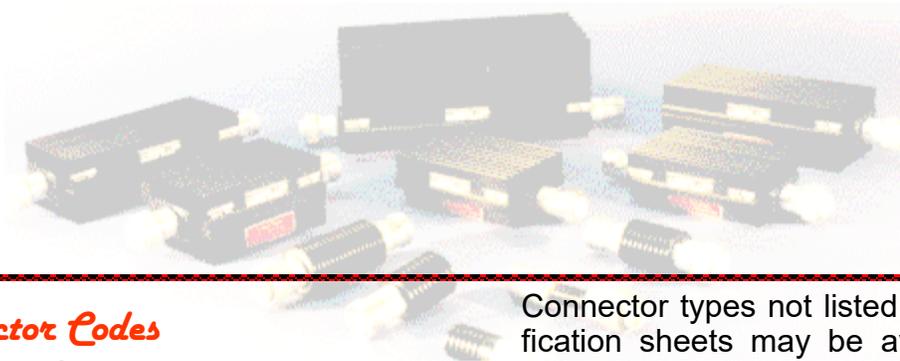
To the best of our knowledge, the products presented in this catalogue comply with the hazardous substance restrictions imposed by the RoHS directive and are suitable for use in RoHS-compliant systems and assemblies.

How to Order

When placing an order, please provide the model number, attenuation in decibels (dB) for an attenuator, and the desired connector configuration.

* Connector Code

Examples					
Attenuator:	WA48	-	30	-	0403
	Model		dB		*
Termination:	WA1424	-	05		
	Model		*		



Connector Codes

Connector Code: Each digit represents a connector type per the following table:

Code	Connector Type	Gender
01	SMA Jack	F
02	SMA Plug	M
03	N-Type Jack	F
04	N-Type Plug	M
05	TNC Jack	F
06	TNC Plug	M
07	DIN 7/16 Jack	F
08	DIN 7/16 Plug	M
09	7 mm	N/A
10		
11	3.5 mm	F
12	3.5 mm	M
13	2.92 mm	F
14	2.92 mm	M
15	2.4 mm	F
16	2.4 mm	M
17	1.85 mm	F
18	1.85 mm	M
19	BNC	F
20	BNC	M
21	4.3-10	F
22	4.3-10	M

Connector codes may vary depending on model type as listed on the associated specification sheet. In the case of Uni-directional attenuators, the first digit of the connector code identifies the input connector (N-type Plug (m) in the example) and the second digit identifies the

Connector types not listed on the specification sheets may be available. We will make every effort to accommodate your request.

Power Ratings

Unless otherwise specified, all of our products will operate at their full power rating without the need for forced air cooling.

All of our products are dry and achieve their rated power handling without oils or other coolants.

Warranty

Weinschel Associates warrants each product it manufactures to be free from defects in material and workmanship. Defective product will be repaired or replaced at the discretion of WA at no charge to the customer for a period of two years after shipment to the original purchaser.

The above warranty is Weinschel Associates sole warranty and the extent of its liabilities and obligations with respect to its products unless otherwise explicitly agreed to in writing. WA makes no other warranty of any kind, express or implied, and disclaims any warranty of merchantability or fitness for a particular purpose. In no event shall WA be liable for any incidental, consequential, or special loss or damages, or for any sum greater than the purchase price of the product.

Weinschel Associates reserves the right to make changes in the design of its products at any time without incurring any obligation to make those changes on products it has previously sold.

FIXED COAXIAL ATTENUATORS

DC – 50.0 GHz

1 – 2000 WATTS

Low Power Fixed Attenuators: 1 Watt to 10 Watts

Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors and Mounting Notes	Page No.
WA6	1	50	0.25	1 to 30	2.4 mm	13
WA50	2	3	1	1 to 50	N	46
WA1W/6	2	6	1	1 to 60	N	6
WA3/6	2	6	0.5	1 to 60	SMA	7
WA3C/6	2	6	0.25	1 to 30	SMA	8
WA3CH/6	2	6	0.25	1 to 30	SMA	9
WA3H/6	2	6	0.5	1 to 60	SMA	10
WA3M/6	2	6	0.5	1 to 60	SMA	11
WA3T/6	2	6	0.5	1 to 60	SMA	12
WA18	2	6	1	1 to 30	BNC	19
WA1W	2	12.4	1	1 to 60	N	6
WA3	2	12.4	0.5	1 to 60	SMA	7
WA3C	2	12.4	0.25	1 to 30	SMA	8
WA3CH	2	12.4	0.25	1 to 30	SMA	9
WA3H	2	12.4	0.5	1 to 60	SMA	10
WA3M	2	12.4	0.5	1 to 60	SMA	11
WA3T	2	12.4	0.5	1 to 60	SMA	12
WA2W	2	18	1	1 to 60	N	6
WA32	2	18	0.5	1 to 60	SMA	27
WA4	2	18	0.5	1 to 60	SMA	7
WA4C	2	18	0.25	1 to 30	SMA	8
WA4CH	2	18	0.25	1 to 30	SMA	9
WA4H	2	18	0.5	1 to 60	SMA	10
WA4M	2	18	0.5	1 to 60	SMA	11
WA4T	2	18	0.5	1 to 60	SMA	12
WA9	2	26.5	0.5	1 to 60	SMA	17
WA56	2	32	0.2	1 to 30	3.5mm	52
WA54	2	40	0.2	1 to 30	2.92 mm	49
WA54CH	2	40	0.2	1 to 30	2.92 mm	50
WA6A	2	50	0.25	1 to 30	2.4 mm	13
WA1/6	5	6	1	1 to 60	N	5
WA7/6	5	6	1	1 to 60	SMA	14
WA7A	5	18	0.5	1 to 60	SMA	15
WA7A/12	5	12.4	0.5	1 to 60	SMA	15
WA7A/6	5	6	0.5	1 to 60	SMA	15
WA17	5	18	1	1 to 60	7mm	18
WA19	5	6	1	1 to 30	BNC	20
WA55/6	5	6	1	1 to 30	TNC	51
WA1	5	12.4	1	1 to 60	N	5
WA7/12	5	12.4	1	1 to 60	SMA	14
WA2	5	18	1	1 to 60	N	5
WA44	5	18	1	1 to 60	N	40

FIXED COAXIAL ATTENUATORS

DC – 50.0 GHz

1 — 2000 WATTS

Low Power Fixed Attenuators: 1 Watt to 10 Watts - Continued

Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors and Mounting Notes	Page No.
WA7	5	18	1	1 to 60	SMA	14
WA55	5	18	1	1 to 30	TNC	51
WA77	5	32	0.2	1 to 30	3.5 mm	69
WA75	5	40	0.2	1 to 30	2.92 mm	66
WA41/6	10	6	1	1 to 60	SMA	37
WA41T/6	10	6	1	1 to 60	TNC	38
WA8/6	10	6	1	1 to 60	N	16
WA20	10	6	1	1 to 30	BNC	21
WA37	10	8.5	1	1 to 60	N	33
WA41/12	10	12.4	1	1 to 60	SMA	37
WA41T/12	10	12.4	1	1 to 60	TNC	38
WA8/12	10	12.4	1	1 to 60	N	16
WA41	10	18	1	1 to 60	SMA	37
WA41T	10	18	1	1 to 60	TNC	38
WA8	10	18	1	1 to 60	N	16
WA76	10	40	0.2	6 to 30	2.92 mm	67
WA76B	10	40	0.2	3 to 30	2.92 mm, Flatpack	68
WA78	10	26.5	0.2	6 to 30	3.5	70

Medium Power Fixed Attenuators: 20 Watts to 100 Watts

Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors and Mounting Notes	Page No.
WA33L	20	4	5	1 to 30	N, SMA, TNC, 7/16 DIN	30
WA34L	20	8.5	5	1 to 30, 40	N, SMA, TNC, 7/16 DIN	30
WA89	20	40	0.20	10 to 30	2.92 mm	75
WA21	25	4	5	1 to 40	N, SMA, TNC, Low-Profile, Mountable	22
WA34	25	4	5	1 to 40	N, SMA, 7/16 DIN	28
WA34B	25	4	5	1 to 40	N, SMA, TNC, Square Body Mount	29
WA22	25	8.5	5	1 to 30	N, SMA, TNC, Low-Profile, Mountable	22
WA33	25	8.5	5	1 to 30	N, SMA, 7/16 DIN	28
WA33B	25	8.5	5	1 to 30	N, SMA, TNC, Square Body Mount	29
WA46/12	25	12.4	1	3 to 40	N, SMA, TNC	42
WA46	25	18	1	3 to 40	N, SMA, TNC	42
WA74	25	28	0.50	3 to 30	3.5 mm	65

FIXED COAXIAL ATTENUATORS

DC – 50.0 GHz

1 — 2000 WATTS

Medium Power Fixed Attenuators: 20 Watts to 100 Watts - Continued

Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors and Mounting Notes	Page No.
WA23	50	4	5	1 to 40	N, SMA, TNC, 7/16 DIN	23
WA23B	50	4	5	3 to 40	N, SMA, TNC Square Body Mount	24
WA71	50	4	5	1 to 40	N, SMA, TNC Low-Profile, Mountable	63
WA24	50	8.5	5	3 to 40	N, SMA, TNC, 7/16 DIN	23
WA24B	50	8.5	5	3 to 40	N, SMA, TNC, Square Body Mount	24
WA72	50	8.5	5	1 to 40	N, SMA, TNC, Low-Profile, Mountable	63
WA47/12	50	12.4	1	6 to 40	N, SMA, TNC	43
WA90/12	50	12.4	1	3 to 40, 50, 60	N, SMA, TNC	76
WA47	50	18	1	6 to 40	N, SMA, TNC	43
WA90	50	18	1	3 to 40	N, SMA, TNC	76
WA90B	50	18	1	3 to 40	N, SMA, TNC	77
WA73	50	26	0.5	6 to 40	3.5 mm	64
WA86	50	22	1	3 to 40	SMA	73
WA88	50	40	0.2	20, 30, 40	2.92 mm	74
WA29/4	75	4	5	3 to 49	N, SMA, TNC, 7/16 DIN	26
WA29	75	8.5	5	3 to 40	N, SMA, TNC, 7/16 DIN	26
WA59	100	3.0	10	3 to 40	N, SMA, TNC, Low-Profile, Mountable	55
WA26	100	4	5	3 to 40	N, SMA, TNC, 7/16 DIN	25
WA30	100	4	5	3 to 30	N, SMA, TNC, 7/16 DIN	27
WA68	100	6	5	1 to 30	N, SMA, 7/16 DIN	61
WA27	100	8.5	5	3 to 40	N, SMA, TNC, 7/16 DIN	25
WA31	100	8.5	5	3 to 30	N, SMA, TNC, 7/16 DIN	27
WA48/12	100	12.4	1	10 to 30	N, SMA, TNC	44
WA91/12	100	12.4	1	3 to 40	N, SMA, TNC	78
WA48	100	18	1	10 to 40	N, SMA, TNC	44
WA91	100	18	1	3 to 40	N, SMA, TNC	78
WA93	100	18	1	10 to 30	N, SMA, TNC	80

* Other attenuation values and connector configurations are available

Custom solutions at “off-the-shelf” prices

FIXED COAXIAL ATTENUATORS

DC – 50.0 GHz

1 — 2000 WATTS

High Power Fixed Attenuators: 150 Watts to 2000 Watts

Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors and Mounting Notes	Page No.
WA40	150	3	10	3 to 40	N, SMA, TNC, 7/16 DIN	36
WA42	150	3	10	3 to 40	N, SMA, TNC, 7/16 DIN Low-Profile, Mountable	39
WA65	150	3	10	3 to 30	N, SMA, 7/16 DIN	58
WA39	150	4	5	3 to 40	N, SMA, TNC, 7/16 DIN	35
WA61	150	4	5	3 to 40	N, 7/16 DIN Low-Profile, Mountable	57
WA57	150	5	10	3 to 40	N, SMA, TNC, 7/16 DIN	53
WA49	150	8.5	5	3 to 40	N, SMA, TNC, 7/16 DIN	45
WA62	150	8.5	5	3 to 40	N, 7/16 DIN Low-Profile, Mountable	57
WA66/12	150	12.4	1	10 to 40	N, SMA	59
WA92/12	150	12.4	1	10 to 40	N, SMA, TNC	79
WA66	150	18	1	10 to 40	N, SMA	59
WA92	150	18	1	10 to 40	N, SMA, TNC	79
WA95/12	200	12.4	1	10 to 40	N-type	81
WA95	200	18	1	10 to 40	N-type	81
WA45	250	2.5	10	10 to 40	N, 7/16 DIN	41
WA45/3	250	3	10	10 to 40	N, 7/16 DIN	41
WA58	250	5	10	3 to 40	N, 7/16 DIN	54
WA35	250	8.5	5	10 to 40	N, 7/16 DIN	31
WA96	250	18	1	10 to 40	N-type	82
WA38	300	5	10	10 to 40	N, 7/16 DIN	34
WA36	300	8.5	5	10 to 40	N, 7/16 DIN	32
WA67	350	12	5	10 to 40	N-type	60
WA53	500	3	10	3 to 40	N, 7/16 DIN	48
WA60	500	5	5	10 to 40	N, 7/16 DIN	56
WA51	500	8.5	5	10 to 40	N, 7/16 DIN	47
WA81	500	10	5	10 to 40	N, 7/16 DIN	72
WA70	1000	3	10	20, 30, 40	N, 7/16 DIN	62
WA80	2000	3	10	20, 30, 40	N, 7/16 DIN	71

* Other attenuation values and connector configurations are available

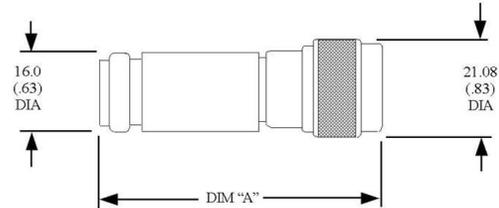
Custom solutions at “off-the-shelf” prices

Fixed Coaxial Attenuator

WA1 & WA2

WA1/6: DC – 6 GHz
 WA1: DC – 12.4 GHz
 WA2: DC – 18.0 GHz

5 WATTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1/6: DC - 6 GHz.
 WA1: DC - 12.4 GHz.
 WA2: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: <0.005 dB/dB/W. Bidirectional in power.

Power Rating: 5 W average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 kW peak (5 µsec pulse width; 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost. Model WA2 is also available in a calibrated attenuator set WAS -6 (3, 6, 10 and 20dB) with certificate of calibration.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA1(/6)	WA1	WA2
1 to 2	0.4	0.4	0.5
3 to 9	0.3	0.3	0.3
10 to 20	0.5	0.5	0.5
21 to 40	0.75	0.75	1.0
41 to 50	0.75	0.75	1.25
51 to 60	1.0	1.0	1.5

Maximum VSWR

Frequency (GHz)	VSWR		
	WA1(/6)	WA1	WA2
DC - 4.0	1.15	1.15	1.15
4.0 - 8.0	1.2	1.2	1.2
8.0 - 12.4	N/A	1.25	1.25
12.4 - 18.0	N/A	N/A	1.4

Weight (All Models):

01-30 dB	70 (2.6)
31-60 dB	100 (3.6)

Dimensions:

Attenuation (dB)	Dim "A"
1 – 30	57.2 (2.25)
31 – 60	67.4 (2.65)

Diameter: 16.0 (0.63).

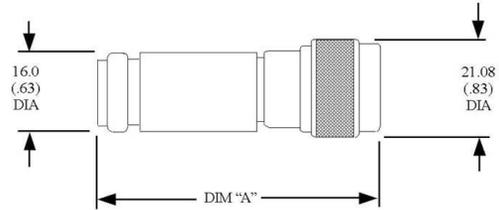
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA1W & WA2W

WA1W/6: DC – 6.0 GHz
 WA1W: DC – 12.4 GHz
 WA2W: DC – 18.0 GHz

2 WATTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1W/6: DC - 6 GHz.
 WA1W: DC - 12.4 GHz.
 WA2W: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: <0.005 dB/dB/W. Bidirectional in power.

Power Rating: 2 W average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 kW peak (5 µsec pulse width; 0.1% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA1W/6	WA1W	WA2W
1 to 2	0.4	0.4	0.5
3 to 9	0.3	0.3	0.3
10 to 20	0.5	0.75	0.5
21 to 40	0.75	1.0	1.0
41 to 50	0.75	1.0	1.25
51 to 60	1.0	N/A	1.5

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA1W/6	WA1W	WA2W
DC - 4.0	1.15	1.15	1.15
4.0 - 8.0	1.2	1.2	1.2
8.0 - 12.4	N/A	1.25	1.25
12.4 - 18.0	N/A	N/A	1.4

Weight (All Models):

01-30 dB 70 (2.6)
 31-60 dB 100 (3.6)

Dimensions:

Attenuation (dB)	Dim "A"
1 – 30	57.2 (2.25)
31 – 60	67.4 (2.65)

Diameter: 16.0 (0.63).

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA3 & WA4

WA3/6: DC – 6 GHz

WA3: DC – 12.4 GHz

WA4: DC – 18.0 GHz

2 WATTS



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3/6: DC - 6 GHz.
WA3: DC - 12.4 GHz.
WA4: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

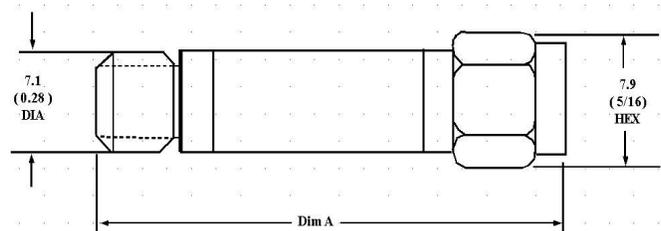
Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125°C, **500 W** peak (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper female and male contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.



Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3(/6)	WA4
1 - 6	0.3	0.3
7 - 12	0.3	0.5
13 - 20	0.5	0.7
21 - 40	0.75	1.0
41 - 60	1.0	1.5

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3(/6)	WA4
DC - 4.0	1.15	1.15
4.0 - 6.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Dimensions:

Attenuation (dB)	All Models	
	Length (Dim "A")	Weight
1 - 12	31.2 (1.23)	3.9 (.14)
13 - 20	33.3 (1.31)	4.3 (.15)
21 - 30	35.3 (1.41)	4.9 (.17)
31 - 60	43.4 (1.71)	6.5 (.23)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options

Fixed Coaxial Attenuator

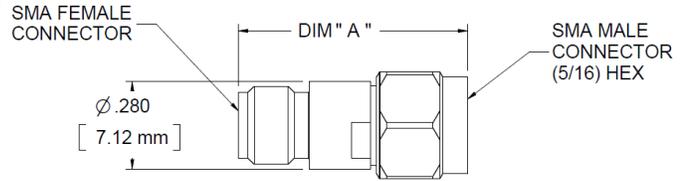
WA3C & WA4C

WA3C/6: DC – 6 GHz

WA3C: DC – 12.4 GHz

WA4C: DC – 18.0 GHz

2 WATTS



Features

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Our most compact 2W model.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3C/6: DC - 6 GHz.
WA3C: DC - 12.4 GHz.
WA4C: DC - 18.0 GHz.

Nominal dB Values: 1 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125° C, **250 W** peak (5µsec pulse width, 0.4% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper female and male contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3C(/6)	WA4C
0 - 6	0.3	0.3
7 - 20	0.5	0.5
21 - 30	0.75	0.75

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3C(/6)	WA4C
DC - 4.0	1.15	1.15
4.0 - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Weight (Both Models):

1 - 12 dB	3.9 (0.14)
13 - 30 dB	4.3 (0.15)

Dimensions:

Attenuation (dB)	Dim "A"
1 - 12	19.3 (0.76)
13 - 30	22.6 (0.89)

Diameter: 7.1 (0.28).

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

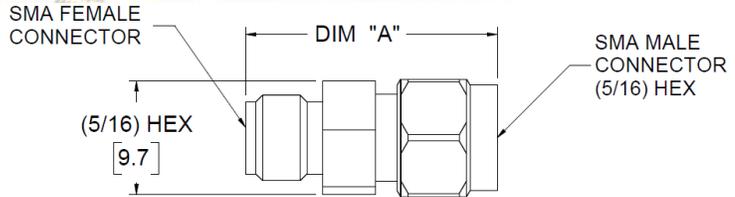
WA3CH & WA4CH

WA3CH/6: DC – 6 GHz

WA3CH: DC – 12.4 GHz

WA4CH: DC – 18.0 GHz

2 WATTS



Features

Hex body variant of our most compact 2W model.

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3CH/6: DC - 6 GHz.
WA3CH: DC - 12.4 GHz.
WA4CH: DC - 18.0 GHz.

Nominal dB Values: 1 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125° C, **250 W** peak (5µsec pulse width, 0.4% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper female and male contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3CH(/6)	WA4CH
0 - 6	0.3	0.3
7 - 20	0.5	0.5
21 - 30	0.75	0.75

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3CH(/6)	WA4CH
DC - 4.0	1.15	1.15
4.0 - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Weight (Both Models):

1 - 12 dB 3.9 gm/ 0.14 oz.
13 - 30 dB 4.3 gm/ 0.15 oz.

Dimensions:

Attenuation (dB)	Dim "A"
1 - 12	19.3 (0.76)
13 - 30	22.6 (0.89)

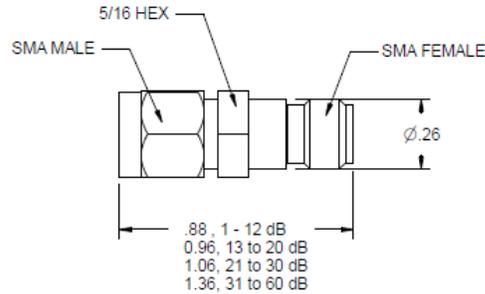
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA3H & WA4H

WA3H/6: DC – 6 GHz
 WA3H: DC – 12.4 GHz
 WA4H: DC – 18.0 GHz

2 WATTS



Features

Hex body.

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3H/6: DC - 6 GHz.
 WA3H: DC - 12.4 GHz.
 WA4H: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at +125° C, 500 W peak (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper female and male contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3H(/6)	WA4H
0 - 12	0.3	0.5
13 - 20	0.5	0.7
21 - 40	0.75	1.0
41 - 60	1.0	1.5

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3H(/6)	WA4H
DC - 4.0	1.15	1.15
4.0 - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Dimensions:

Attenuation (dB)	All Models	
	Length	Weight
1 - 12	22.4 (.88)	3.9 (.14)
13 - 20	24.4 (.96)	4.3 (.15)
21 - 30	27.0 (1.06)	4.9 (.17)
31 - 60	34.6 (1.36)	6.5 (.23)

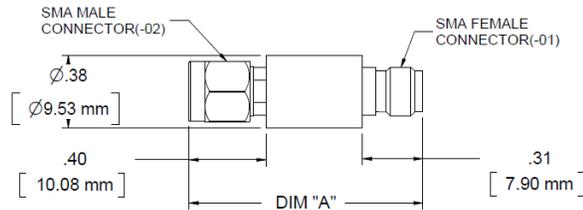
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA3M & WA4M

WA3M/6: DC – 6 GHz
 WA3M: DC – 12.4 GHz
 WA4M: DC – 18.0 GHz

2 WATTS



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3M/6: DC - 6 GHz.
 WA3M: DC - 12.4 GHz.
 WA4M: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125° C, 500 W peak (5µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts, stainless steel male contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3M(/6)	WA4M
0 - 12	0.3	0.5
13 - 20	0.5	0.7
21 - 40	0.75	1.0
41 - 60	1.0	1.5

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3M(/6)	WA4M
DC - 4.0	1.15	1.15
4.0 - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Dimensions and Weight:

Attenuation (dB)	All Models		
	Length (Dim "A")	Diameter	Weight
1 - 30	30.5 (1.2)	9.1 (.36)	5.3 (0.19)
31 - 60	38.1 (1.5)	9.1 (.36)	6.5 (0.23)

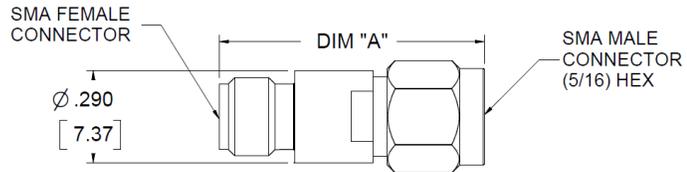
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA3T & WA4T

WA3T/6: DC – 6 GHz
WA3T: DC – 12.4 GHz
WA4T: DC – 18.0 GHz

2 WATTS



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA3T/6: DC - 6 GHz.
WA3T: DC - 12.4 GHz.
WA4T: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125° C, **500 W** peak (5µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA3T(/6)	WA4T
0 - 12	0.3	0.5
13 - 20	0.5	0.7
21 - 40	0.75	1.0
41 - 60	1.0	1.5

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA3T(/6)	WA4T
DC - 4.0	1.15	1.15
4.0 - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Dimensions:

Attenuation (dB)	All Models	
	Length (Dim "A")	Weight
1 - 12	22.4 (.88)	4.0 (.14)
13 - 20	24.4 (.96)	4.5 (.16)
21 - 30	26.9 (1.06)	5.0 (.18)
31 - 60	34.5 (1.36)	6.5 (.23)

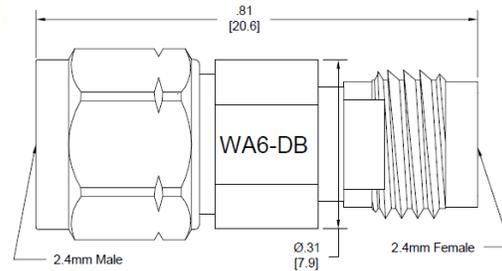
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA5, WA6 & WA6A

WA5 - DC - 50 GHz
 WA6 - DC - 50 GHz
 WA6A - DC - 50 GHz

0.5 WATT
 1 WATT
 2 WATTS



Features

2.4 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 50 GHz.

Nominal dB Values: 0 - 30 dB

Power Coefficient: < 0.005 dB/dB/W:
 Bidirectional in power.

Power Rating: 0.5 W (WA5), 1 W (WA6) or 2 W (WA6A) average to 25°C ambient temperature, de-rated linearly to 0.1W at 125° C, 175 W peak (2 µsec pulse width, 0.2% duty cycle).

Temperature Range: -65°C to +125°C.

Temperature Coefficient: <0.0006 dB/dB/°C

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	DC - 26.5 GHz	26.5 - 40 GHz	40 - 50 GHz
3, 6, 10	0.5	1.0	1.5
20	0.8	1.25	2.0
30	1.0	1.5	2.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.35
26.5 - 40	1.6
40 - 50	1.75

Dimensions:

Body Diameter: 7.9 (0.31)
 Weight: 4.5 (0.16)
 Length: 20.6 (0.81)

* Space Qualified Version Available *

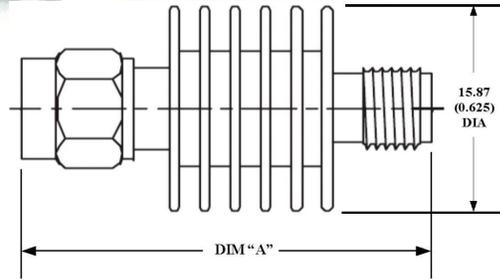
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA7

WA7/6: DC – 6 GHz
 WA7/12: DC – 12.4 GHz
 WA7: DC – 18.0 GHz

5 WATTS



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Our compact design allows for one of the lowest size to power ratios available.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA7/6: DC - 6 GHz.
 WA7/12: DC - 12.4 GHz.
 WA7: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 5 W average to 25°C ambient temperature, de-rated linearly to 0.5W at 125°C, 500 W peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	All models
1 - 2	0.5
3 - 9	0.3
10 - 20	0.5
21 - 40	1.0
50	1.25
60	1.5

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA7/6	WA7/12	WA7
DC - 4.0	1.15	1.15	1.15
4.0 - 6.0	1.2	1.2	1.2
6.0 - 8.0	N/A	1.2	1.2
8.0 - 12.4	N/A	1.25	1.25
12.4 - 18.0	N/A	N/A	1.4

Dimensions:

Attenuation (dB)	WA7	
	Length (Dim "A")	Weight
1 - 30	30.5 (1.2)	9.3 (.33)
31 - 60	38.6 (1.52)	13 (.46)

Diameter: 15.87 (0.625)

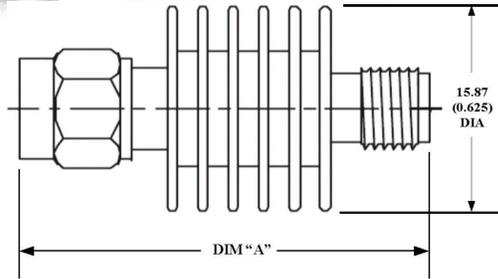
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA7A

WA7A/6: DC – 6 GHz
 WA7A/12: DC – 12.4 GHz
 WA7A: DC – 18.0 GHz

5 WATTS



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Our compact design allows for one of the lowest size to power ratios available.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA7A/6: DC - 6 GHz.
 WA7A/12: DC - 12.4 GHz.
 WA7A: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 5 W average to 25°C ambient temperature, de-rated linearly to 0.5W at 125° C, 500 W peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	All models
1 - 6	0.3
7 - 30	0.5
40	1.0
50	1.25
60	1.5

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA7A/6	WA7A/12	WA7a
DC - 6.0	1.15	1.15	1.15
6.0 - 8.0	N/A	1.15	1.15
8.0 - 12.4	N/A	1.25	1.25
12.4 - 18.0	N/A	N/A	1.25

Dimensions:

Attenuation (dB)	WA7	
	Length (Dim "A')	Weight
1 - 30	30.5 (1.2)	9.3 (.33)
31 - 60	38.6 (1.52)	13 (.46)

Diameter: 15.87 (0.625)

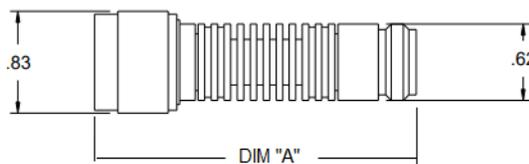
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA8

WA8/6: DC – 6 GHz
WA8/12: DC – 12.4 GHz
WA8: DC – 18.0 GHz

10 WATTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA8/6: DC - 6 GHz.
WA8/12: DC - 12.4 GHz.
WA8: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 10 W average to 25°C ambient temperature, 0W at +125°C, 1 kW peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA8
1 - 2	0.5
3 - 9	0.3
10 - 20	0.5
21 - 40	1.0
50	1.25
60	1.5

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA8/6	WA8/12	WA8
DC - 6.0	1.2	1.2	1.2
6.0 - 8.0	N/A	1.2	1.2
8.0 - 12.4	N/A	1.3	1.3
12.4 - 18.0	N/A	N/A	1.35

Length (Dim "A"): 67.30 (2.62)

Weight: 2.6 (0.074)

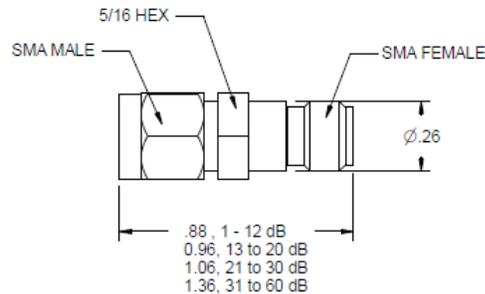
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA9

DC - 26.5 GHz

2 WATTS



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Usable to 30 GHz.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 0.5W at 125°C, **500 W** peak (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper female and male contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Calibrated Attenuator Set (WAS-19): Model WA9 is also available in a Calibrated Attenuator Set (3, 6, 10, and 20 dB). Refer to Attenuator Set data sheets for specifications.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1 - 3	0.5
4 - 6	0.6
7 - 10	0.8
11 - 30	1.0
40, 50, 60	2.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.15
4.0 - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35
18.0 - 26.5	1.5

Dimensions:

Attenuation (dB)	All Models	
	Length	Weight
1 - 12	22.4 (.88)	3.9 (.14)
13 - 20	24.4 (.96)	4.3 (.15)
21 - 30	27.0 (1.06)	4.9 (.17)
31 - 60	34.6 (1.36)	6.5 (.23)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA17

DC - 18.0 GHz

5 WATTS



Features

Precision 7mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Meets or exceeds requirements of IEEE STD 287 and mates with all conforming connectors

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 W maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. , 1 kW peak (5 µsec pulse width, 0.25% duty cycle)

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHs Compliant.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1 - 9	0.3
10 - 20	0.5
21 - 50	0.75
51 - 60	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.10
4.0 - 12.4	1.15
12.4 - 18.0	1.2

Dimensions:

Attenuation (dB)	All Models	
	Length	Weight
1 - 30	51.0 (2)	3.9 (.14)
30 - 60	58.0 (2.28)	4.3 (.15)

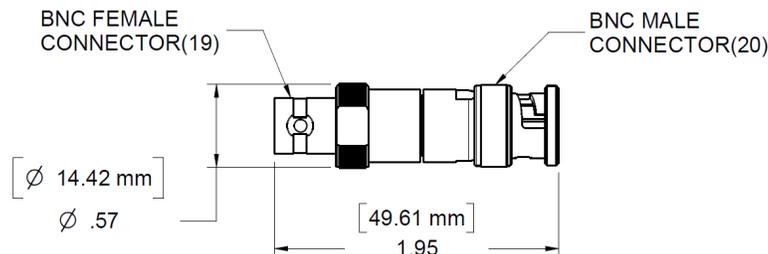
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA18

DC - 6.0 GHz

2 WATTS



Features

BNC connectors mate non-destructively with MIL-PRF-39012. Broad frequency range, optimized for wireless applications.
Usable to 12 GHz.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz
(Usable to 12.0 GHz)

Nominal dB Values: 0 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, de-rated linearly to 0 W at 125°C, 1 kW peak (5 µsec pulse width, 0.1% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body with nickel plated brass connectors. Gold plated beryllium copper female and stainless steel male contacts. RoHs Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
1 - 6	0.4
7 - 30	0.9

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25
4.0 - 6.0	1.3

Dimensions:

Diameter: 14.2 (0.57)
Weight: 32.3 (1.14)
Length: 49.6 (1.95)

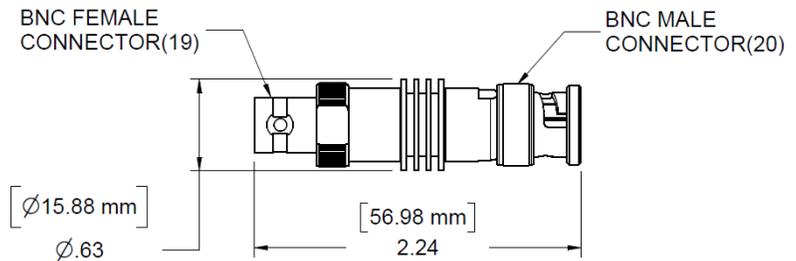
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA19

DC - 6.0 GHz

5 WATTS



Features

BNC connectors mate non-destructively with MIL-PRF-39012. Broad frequency range, optimized for wireless applications.
Usable to 12 GHz.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz
(Usable to 12.0 GHz)

Nominal dB Values: 0 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 W average to 25°C ambient temperature, de-rated linearly to 0.5W at 125°C, 1 kW peak (5 μ sec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black anodized aluminum body with nickel plated brass connectors. Gold plated beryllium copper female, stainless steel male contacts. RoHs Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy \pm dB
1 - 6	0.4
7 - 30	0.9

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25
4.0 - 6.0	1.3

Dimensions and Weight:

Diameter: 15.88 (0.63)
Weight: 34.0 (1.2)
Length: 56.98 (2.24)

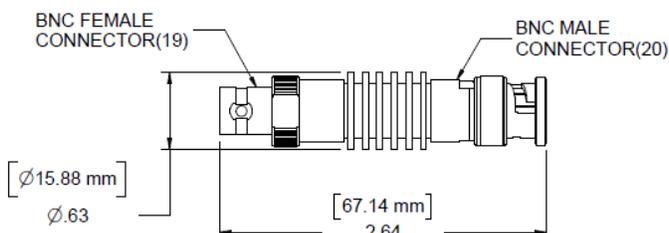
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA20

DC - 6.0 GHz

10 WATTS



Features

BNC connectors mate non-destructively with MIL-PRF-39012. Broad frequency range, optimized for wireless applications.
Usable to 12 GHz.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz
(Usable to 12.0 GHz)

Nominal dB Values: 0 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 10 W average to 25°C ambient temperature, de-rated linearly to 0.5W at 125°C, 1 kW peak (5 μ sec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black anodized aluminum body with nickel plated brass connectors. Gold plated beryllium copper female and stainless steel male contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy \pm dB
1 - 6	0.4
7 - 30	0.9

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25
4.0 - 6.0	1.3

Dimensions:

Diameter: 15.88 (0.63)
Weight: 39.7 (1.4)
Length: 67.14 (2.64)

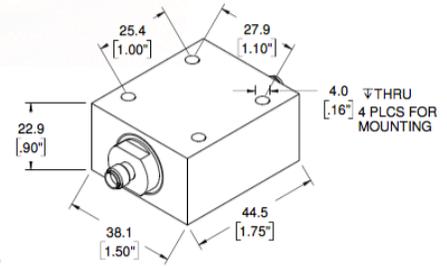
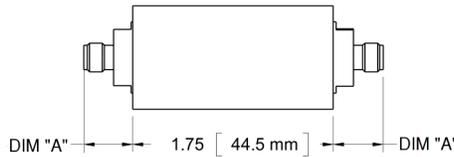
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA21 & WA22

WA21: DC – 4 GHz
WA22: DC – 8.5 GHz

25 WATTS



Features

Low-profile, mountable attenuator. Type N, TNC and SMA stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA21: DC - 4 GHz.
 WA22: DC - 8.5 GHz.

Nominal dB Values: WA21: 1 - 40 dB
 WA22: 1 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 25 W average with case temperature held to 100°C using conductive heat sink. 5 kW peak (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA21	WA22
1 - 2	0.4	0.8
3 - 20	0.3	0.6
21 - 30	0.6	1.0
31 - 40	0.8	1.5

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA21	WA22
DC - 4.0	1.2	1.2
4.0 - 8.5	N/A	1.3

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 170 (6.0)
Height: 22.9 (0.9)
Width: 38.1 (1.5)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration.

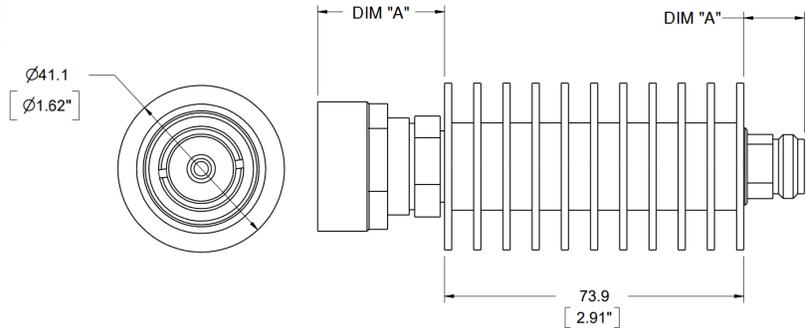
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

Fixed Coaxial Attenuator

WA23 & WA24

WA 23: DC - 4 GHz
WA 24: DC - 8.5 GHz

50 WATTS



Features

Type N, SMA, TNC or DIN 7/16 stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA23: DC - 4 GHz
 WA24: DC - 8.5 GHz

Nominal dB Values: 1 - 40 dB
(50 dB available in a unidirectional variant)

Power Coefficient: < 0.0005 dB/dB/W;
 Bidirectional in power.

Power Rating: **50 W** average to 25°C ambient temperature, de-rated linearly to 5 watts at 125°C. **5 kW** peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA23	WA24
1 - 2	0.5	0.75
3 - 20	0.4	0.75
21 - 30	0.6	1.0
31 - 40	0.8	1.2

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.2
4.0 - 8.5	1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 280 (9.88)
Diameter: 41.1 (1.62)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

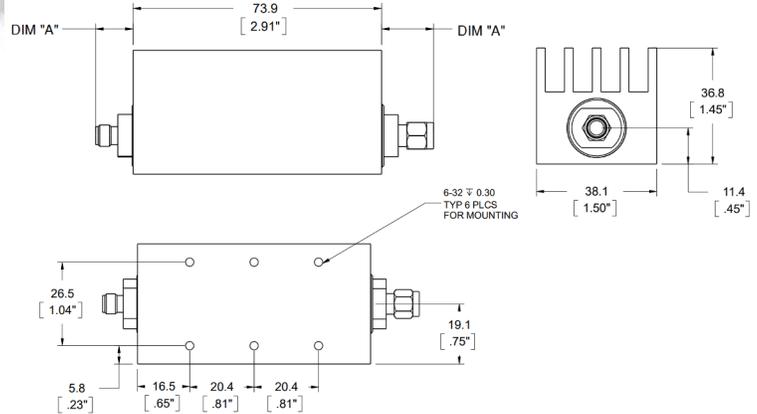
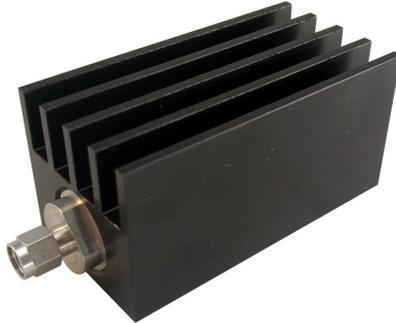
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA23B & WA24B

WA23B: DC - 4 GHz
WA24B: DC - 8.5 GHz

50 WATTS



Features

Type N, SMA, or TNC stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Passive convection cooling, flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA 23B: DC - 4GHz
 WA 24B: DC - 8.5GHz

Nominal dB Values: 3 - 40 dB
 (50 dB available in a unidirectional variant)

Power Coefficient: < 0.0005 dB/dB/W;
 Bidirectional in power.

Power Rating: 50 W average to 25°C ambient temperature, de-rated linearly to 2.5 watts at 125° C. 5 kW peak (5 μsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA23B	WA24B
1 - 2	0.5	0.75
3 - 20	0.4	0.75
21 - 30	0.6	1.0
31 - 40	0.8	1.2

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA23B	WA24B
DC - 4.0	1.2	1.2
4.0 - 8.5	N/A	1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 280 (9.88)
Height: 36.8 (1.45)
Width: 38.1 (1.5)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

Fixed Coaxial Attenuator

WA26 & WA27

WA 26: DC - 4.0 GHz
WA 27: DC - 8.5 GHz

100 WATTS



Features

Type N, SMA, TNC, or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA26: DC - 4.0 GHz
 WA27: DC - 8.5 GHz

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power. (40 dB unidirectional in power)

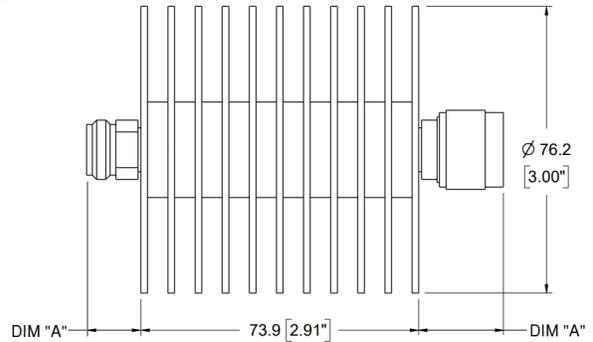
Power Rating: **100 W** average to 25°C ambient temperature, de-rated linearly to 2.5 watts at 125° C, **5 KW** peak (5µsec pulse width, 1% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.



Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
3 - 20	0.75
21 - 30	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.25
4.0 - 8.5	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: .55kg (19.2)
Diameter: 76.2 (3.0)

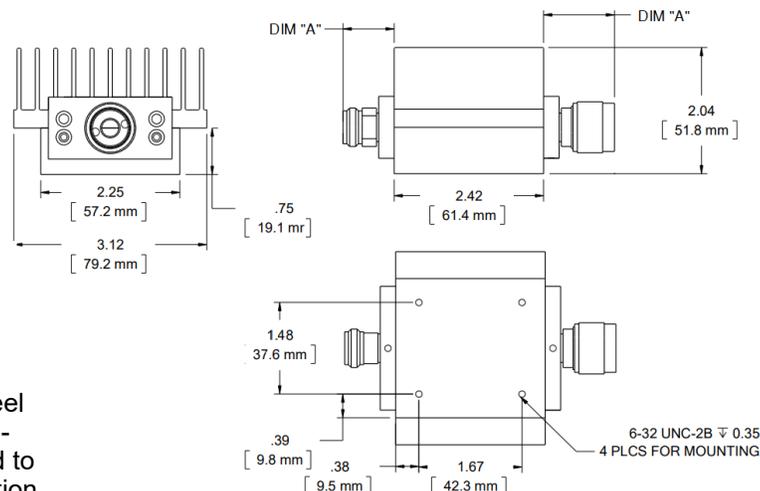
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA29

WA 29/4: DC - 4.0 GHz
WA 29: DC - 8.5 GHz

75 WATTS



Features

Type N, SMA, TNC, or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Passive cooling, flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA29/4: DC - 4.0 GHz
 WA29: DC - 8.5 GHz

Nominal dB Values: 3 - 40 dB
 (50 dB available in a unidirectional variant)

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 75 W average to 25°C ambient temperature, de-rated linearly to 5 W at +125°C, 5 KW peak (5µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy \pm dB	
	WA29/4	WA29
1 - 2	0.5	0.75
3 - 20	0.4	0.75
21 - 30	0.6	1.0
31 - 40	0.8	1.2

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA29/4	WA29
DC - 4.0	1.2	1.2
4.0 - 8.5	N/A	1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	17.7 (.70)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 19.2 (.55)
Height: 51.8
 (2.04)
Width: 79.2 (3.12)

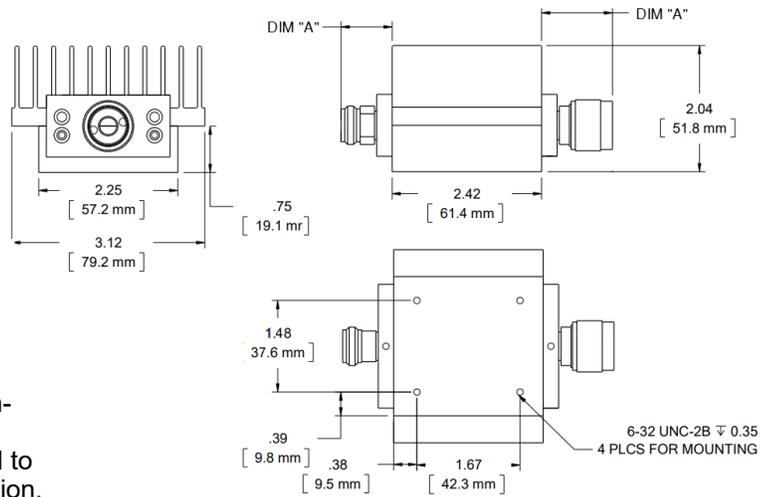
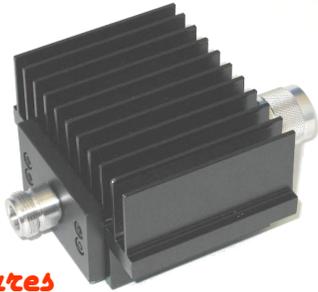
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA30 & WA31

WA 30: DC - 4.0 GHz
WA 31: DC - 8.5 GHz

100 WATTS



Features

Type N, SMA, or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Passive cooling, flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA30: DC - 4.0 GHz
 WA31: DC - 8.5 GHz

Nominal dB Values: 3 - 30 dB
 (40 dB and 50 dB WA30 available in a unidirectional variant)

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 100 W average to 25°C ambient temperature, de-rated linearly to 5 W at +125°C, 5 KW peak (5 µsec pulse width, 1.0% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA30	WA31
1 - 2	0.5	0.75
3 - 20	0.4	0.75
21 - 30	0.6	1.0
31 - 40	0.8	1.2

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA30	WA31
DC - 4.0	1.2	1.2
4.0 - 8.5	N/A	1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.4 (.57)
N-Type M -04	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 19.2 (.55)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

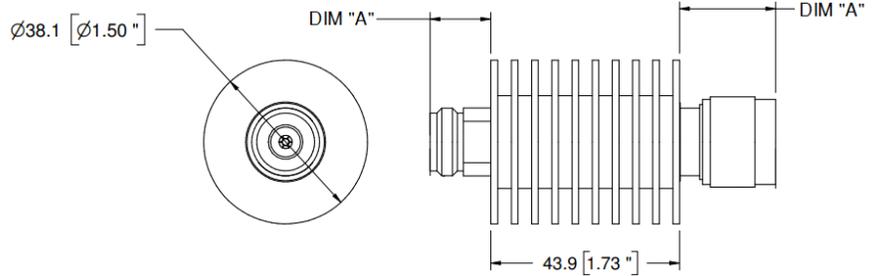
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA33 & WA34

WA 34: DC - 4.0 GHz
WA 33: DC - 8.5 GHz

25 WATTS



Features

Type N, SMA, or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA34: DC - 4.0 GHz
 WA33: DC - 8.5 GHz

Nominal dB Values: 1 - 30, 40 dB (WA34)

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: **Power Rating: 25 W** average to 25°C ambient temperature, de-rated linearly to 2.5 watts 125° C, **5 KW** peak (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA33	WA34
1 - 2	0.8	0.4
3 - 20	0.6	0.3
21 - 30	1.0	0.6
40	1.0	1.3

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA33	WA34
DC - 4.0	1.2	1.2
4.0 - 8.5	1.3	N/A

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (0.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: .17 (6.0)
Diameter: 22.9 (0.90)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

Fixed Coaxial Attenuator

WA33B & WA34B

WA 34B: DC - 4.0 GHz
WA 33B: DC - 8.5 GHz

25 WATTS



Features

Type N, SMA, or TNC stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Passive cooling, flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA34B: DC - 4.0 GHz
 WA33B: DC - 8.5 GHz

Nominal dB Values: 1 - 30, 40 dB (WA34)

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 25 W average to 25°C ambient temperature, de-rated linearly to 2.5 watts 125° C, 5 KW peak (5 µsec pulse width, 0.25% duty cycle).

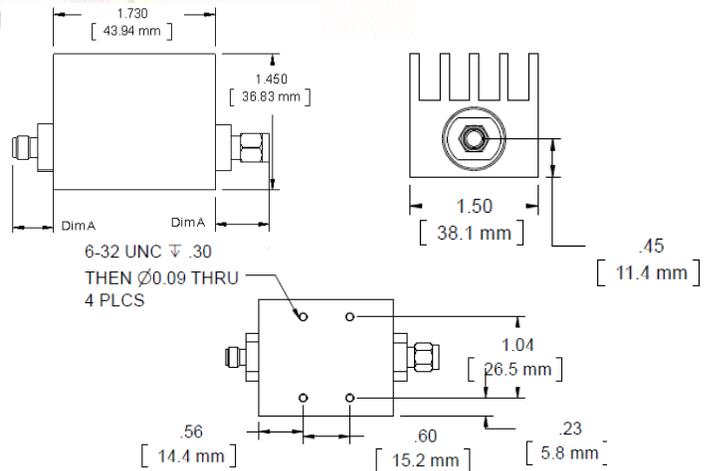
Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.



Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA33B	WA34B
1 - 2	0.8	0.4
3 - 20	0.6	0.3
21 - 30	1.0	0.6
40	1.0	1.3

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA33B	WA34B
DC - 4.0	1.2	1.2
4.0 - 8.5	1.3	N/A

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: .17 (6.06)
Height: 36.8 (1.45)
Width: 38.1 (1.50)
Mounting: 4x 6-32 UNC, 0.09 Thru

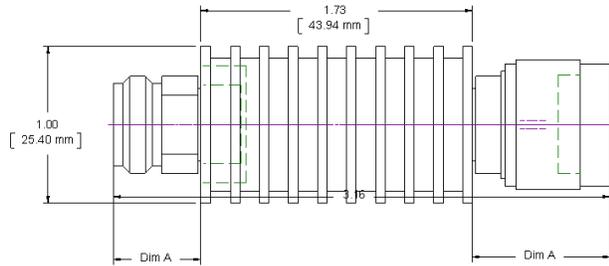
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA33L & WA34L

WA 34L: DC - 4.0 GHz
WA 33L: DC - 8.5 GHz

20 WATTS



Features

Type N, SMA, TNC, or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA34L: DC - 4.0 GHz
 WA33L: DC - 8.5 GHz

Nominal dB Values: 1 - 30, 40 dB (WA34L)

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 20 W average to 25°C ambient temperature, de-rated linearly to 2 watts 125° C, 5 KW peak (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA33L	WA34L
1 - 2	0.8	0.4
3 - 30	1.0	0.6
40	1.3	1.0

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA34L	WA33L
DC - 4.0	1.2	1.2
4.0 - 8.5	1.3	N/A

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	17.3 (.68)
TNC M -06	14.1 (.56)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: .12 (4.2)
Diameter: 25.4 (1.0)

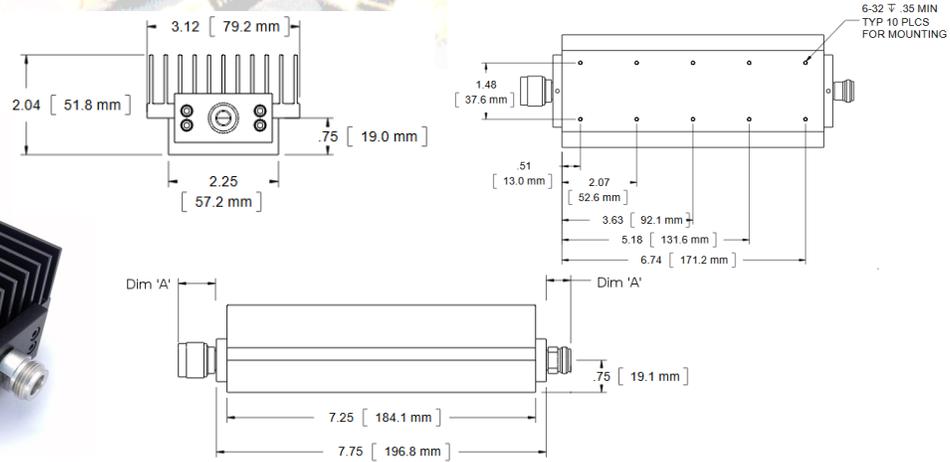
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA35

WA 35: DC - 8.5 GHz

250 WATTS



Features

Type N or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Passive cooling, flat base with mounting holes.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: 250 W average to 25°C ambient temperature, de-rated linearly to 25 watts at 125° C, 5 KW peak (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 4.0 GHz	4.0 - 8.5 GHz
3 - 9	1.0	1.75
10 - 30	0.75	0.75
40	1.0	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA35
DC - 4.0	1.3
4.0 - 8.5	1.45

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	10.9 (.43)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.3 (45.9)
Height: 51.8 (2.04)
Width: 79.2 (3.12)
Mounting Holes: 6-32 TYP 10 PLCS

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

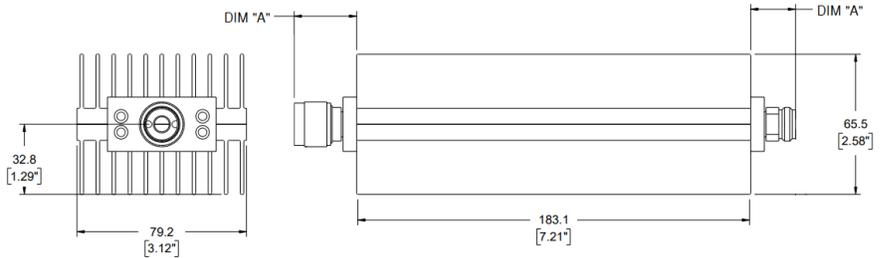
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Fixed Coaxial Attenuator

WA36

DC - 8.5 GHz

300 WATTS



Features

Type N or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **300 W** average to 25°C ambient temperature, de-rated linearly to 25 watts at 125° C, **5 KW** peak (5µsec pulse width, 3% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA36
10 - 30	0.75
40	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA36
DC - 4.0	1.3
4.0 - 8.5	1.45

Dimensions:

Connector Type (- code)	Length	Weight: 1.3 (45.9) Height: 51.8 (2.04) Width: 79.2 (3.12)
	Dimension 'A'	
N-Type F -03	14.9 (.59)	
N-Type M -04	22.7 (.89)	
DIN 7/16 F -07	30.5 (1.2)	
DIN 7/16 M -08	31.8 (1.25)	

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

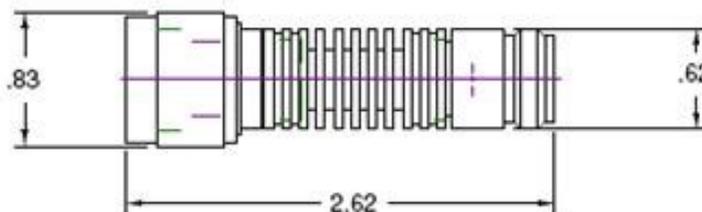
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA37

DC - 8.5 GHz

10 WATTS



Features

Type N stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 10 W average to 25°C ambient temperature, de-rated linearly to 1 watt 125°C, 1 KW peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA37
1 - 2	0.5
3 dB	0.3
4 - 5	0.5
6 dB	0.3
7 - 19	0.5
20 - 25	0.7
26 - 30	0.8
31 - 60	1.2

Maximum VSWR:

Frequency (GHz)	VSWR
	WA37
DC - 4.0	1.15
4.0 - 8.5	1.25

Dimensions and Weight:

Diameter (max): 21.08 (.83)
Length: 66.55 (2.62)
Weight (nominal): 90 (3.17)

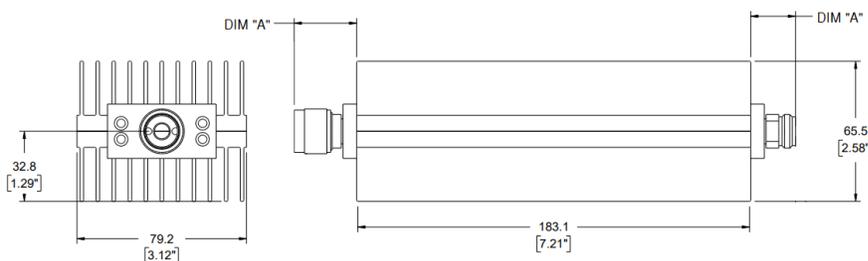
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA38

DC - 5.0 GHz

300 WATTS



Features

Type N or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: **300 W** average to 25°C ambient temperature, de-rated linearly to 25 watts at 125° C, **10 KW** peak (5µsec pulse width, 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA38
10 - 30	0.75
40	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA38
DC - 2.0	1.25
2.0 - 5.0	1.45

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.3 (45.9)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

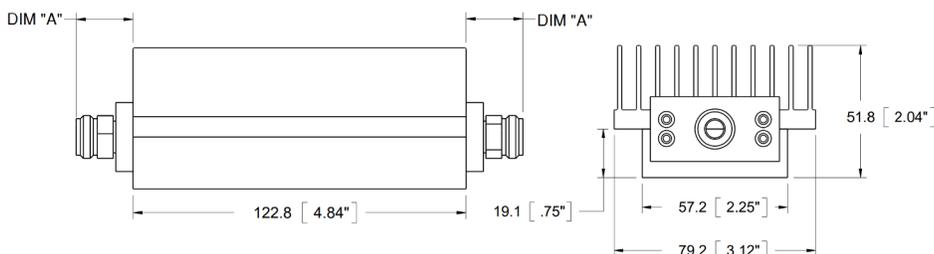
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA39

DC – 4.0 GHz

150 WATTS



Features

Type N, DIN 7/16, SMA or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Nominal dB Values: 3 – 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: 150 W maximum average rated power to 25°C ambient temperature, derated linearly to 15 W at 125°C. 5 kW peak power (5 µsec pulse width, 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA39
3 - 30	0.4
40	0.5

Maximum VSWR: 1.25

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.9 (31.7)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

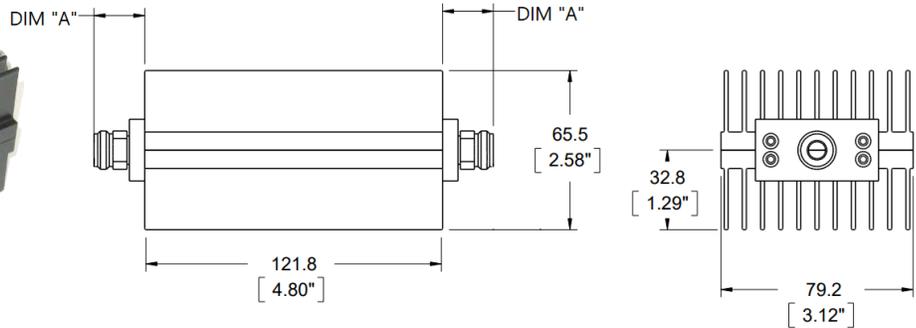
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA40

DC – 3.0 GHz

150 WATTS



Features

Type N, 7/16 DIN, SMA or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **150 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. **10 kW** peak power (5 µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA40
3 - 40	0.5

Maximum VSWR: 1.1

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 1.0 (35.3)
Height: 65.5 (2.58)
Width: 79.2 (3.12)

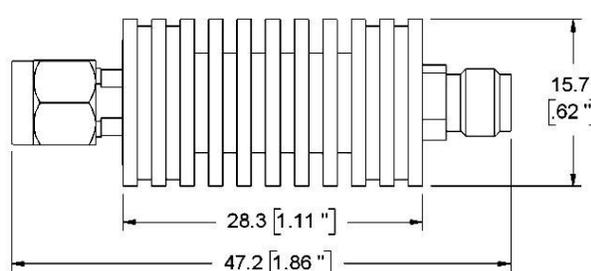
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA41

WA41/6: DC – 6 GHz
 WA41/12: DC – 12.4 GHz
 WA41: DC – 18.0 GHz

10 WATTS



Features

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA41/6: DC - 6 GHz.
 WA41/12: DC - 12.4 GHz.
 WA41: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 10 W average to 25°C ambient temperature, de-rated linearly to 0W at 125° C, 1 kW peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA41 (/6, /12)
1 - 2	0.5
3 dB	0.3
4 - 5	0.5
6 dB	0.3
7 - 19 dB	0.5
20 - 25	0.7
26 - 30	1.0
31 - 60	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA41 (/6, /12)
DC - 6.0	1.2
6.0 - 12.4	1.3
12.4 - 18	1.35

Dimensions and Weight:

Attenuation (dB)	WA41 (/6, /12)		
	Length	Diameter	Weight
1 - 60	47.2 (1.86)	15.7 (.62)	.03 (1.06)

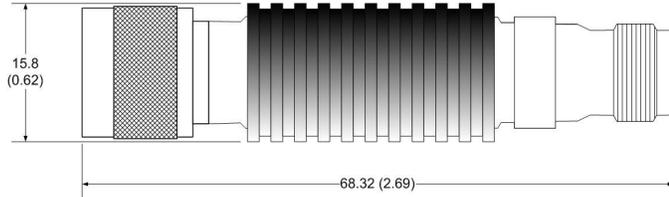
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA41T

WA41T/6: DC – 6 GHz
 WA41T/12: DC – 12.4 GHz
 WA41T: DC – 18.0 GHz

10 WATTS



Features

TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA41T/6: DC - 6 GHz.
 WA41T/12: DC - 12.4 GHz.
 WA41T: DC - 18.0 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
 Bidirectional in power.

Power Rating: 10 W average to 25°C ambient temperature, de-rated linearly to 0W at 125° C, 1 kW peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA41T (/6, /12)
1 - 2	0.5
3	0.3
4 - 5	0.5
6	0.3
7 - 19	0.5
20 - 25	0.7
26 - 30	1.0
31 - 60	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA41T (/6, /12)
DC - 6.0	1.2
6.0 - 12.4	1.4
12.4 - 18	1.5

Dimensions:

Attenuation (dB)	WA41T (/6, /12)		
	Length	Diameter	Weight
1 - 60	59.7 (2.35)	15.8 (.62)	40.3 (1.42)

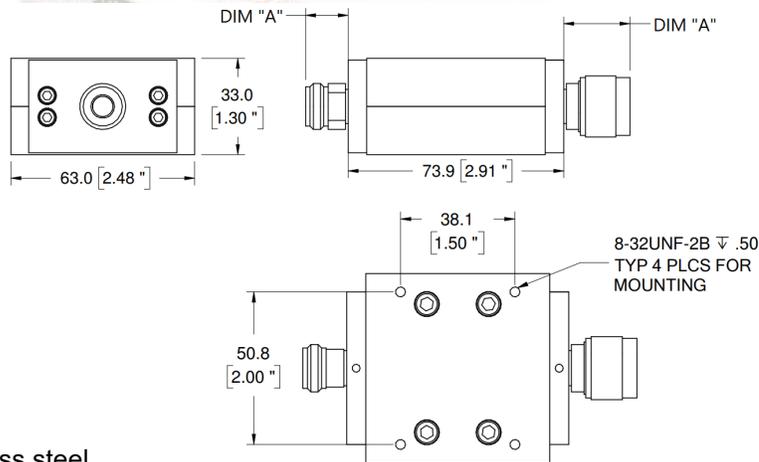
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA42

DC – 3.0 GHz

150 WATTS



Features

Type N, DIN 7/16, SMA or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. *Low profile, mountable housing.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Nominal dB Values: 3 – 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **150 W** maximum average rated power with case temperature held to 100°C using conductive heat sink. **10 kW** peak power (5 µsec pulse width, .75% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA42
3 - 40	0.5

Maximum VSWR: 1.1

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.5 (17.6)
Height: 33.0 (1.3)
Width: 63.0 (2.48)
Mounting: 4x 8-32, .5" deep

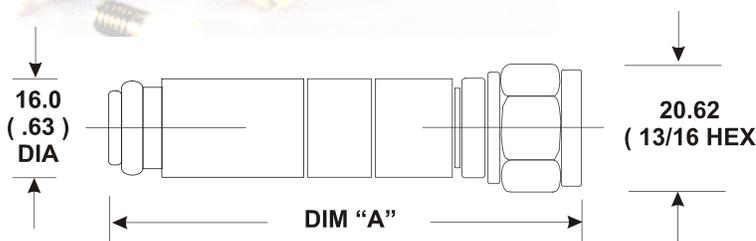
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA44

DC – 18 GHz

5 WATTS



Features

Type N-type stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Precision N-type hex connector design.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 W average to 25°C ambient temperature, de-rated linearly to 0W at 125°C, 1 kW peak (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper or stainless steel contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA44
1 - 9	0.3
10 - 20	0.5
21 - 40	1.0
41 - 60	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA44
DC - 4.0	1.15
4.0 - 12.4	1.2
12.4 - 18.0	1.25

Dimensions:

Attenuation (dB)	WA44		
	Length (Dim "A")	Diameter	Weight
1 - 30	74.4 (2.93)	16.0 (.63)	.10 (3.5)
31 - 60	84.6 (3.33)	16.0 (.63)	.13 (4.5)

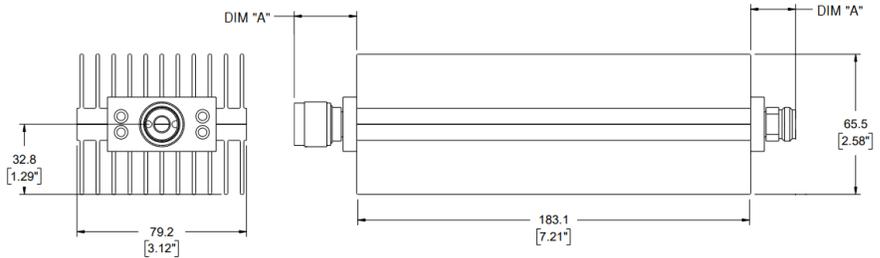
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA45

WA45: DC – 2.5 GHz
WA45/3: DC – 3 GHz

250 WATTS



Features

Type N or 7/16 DIN stainless steel connectors per MIL-STD-348A, interface non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA45: DC - 2.5 GHz.
 WA45/3: DC - 3.0 GHz.

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.005 dB/dB/W;
 Unidirectional in power.

Power Rating: **250 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 25 W at 125°C. **10 kW** peak power (5 usec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA45	WA45/3
3 - 40	0.5	0.7

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA45	WA45/3
DC - 3.0	1.1	1.15

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	10.9 (.43)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.3 (45.9)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

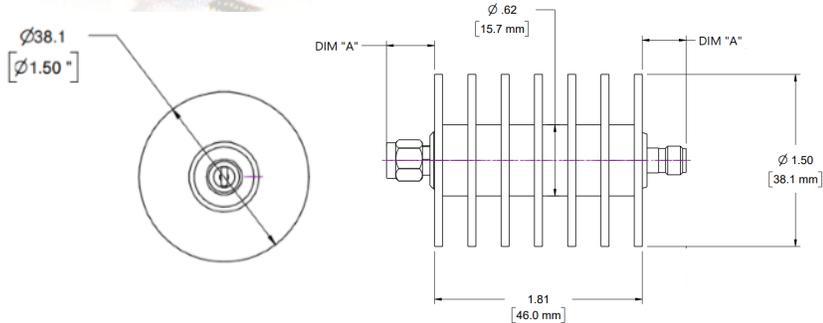
Fixed Coaxial Attenuator

WA46

WA46/12: DC – 12.4 GHz

WA46: DC – 18 GHz

25 WATTS



Features

Type N, SMA, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA46/12: DC - 12.4 GHz.
WA46: DC - 18 GHz.

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.0006 dB/dB/W;
Bidirectional in power.

Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA46/12	WA46
3 - 10	0.5	0.5
11 - 20	0.75	0.75
21 - 40	1.0	1.0

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA46/12	WA46
DC - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18	N/A	1.35

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.11 (3.9)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

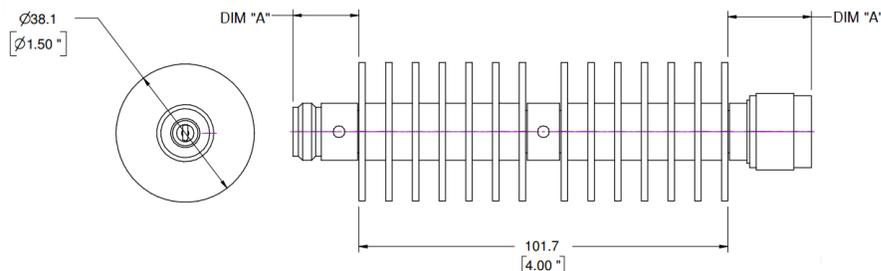
Fixed Coaxial Attenuator

WA47

WA47/12: DC – 12.4 GHz

WA47: DC – 18 GHz

50 WATTS



Features

Type N, SMA, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA47/12: DC - 12.4 GHz.
WA47: DC - 18 GHz.

Nominal dB Values: 6 - 40 dB

Power Coefficient: < 0.0003 dB/dB/W;
Bidirectional in power.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C. 1 kW peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA47/12	WA47
6 - 9	0.75	0.75
10	0.5	0.5
11 - 20	0.75	0.75
21 - 40	1.0	1.0

Maximum VSWR:

Frequency (GHz)	VSWR			
	WA47/12 6 dB	WA47/12 10-40 dB	WA47 6 dB	WA47 10-40 dB
DC - 8.0	1.25	1.2	1.25	1.2
8.0 - 12.4	1.35	1.25	1.35	1.25
12.4 - 18	N/A	N/A	1.45	1.35

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.21 (7.4)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

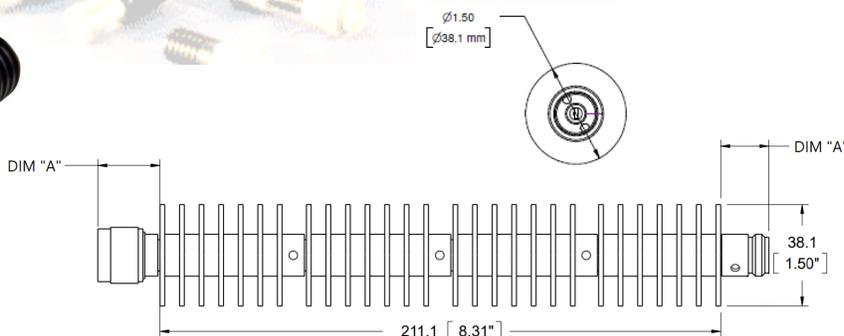
Fixed Coaxial Attenuator

WA48

WA48/12: DC – 12.4 GHz

WA48: DC – 18 GHz

100 WATTS



Features

Type N, SMA, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA48/12: DC - 12.4 GHz.
WA48: DC - 18 GHz.

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.00015 dB/dB/W;
Unidirectional in power.

Power Rating: 100 W maximum average rated power to 25°C ambient temperature, derated linearly to 10 W at 125°C. 1 kW peak power (5 µsec pulse width, 10% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA48/12	WA48
10 - 19	1.25	1.25
20	0.75	0.75
21 - 40	1.0	1.0

Maximum VSWR:

Frequency (GHz)	VSWR			
	WA48/12 10 dB	WA48/12 20-40 dB	WA48 10 dB	WA48 20-40 dB
DC - 8.0	1.4	1.25	1.4	1.25
8.0 - 12.4	1.4	1.35	1.4	1.35
12.4 - 18	N/A	N/A	1.55	1.45

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.21 (7.4)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

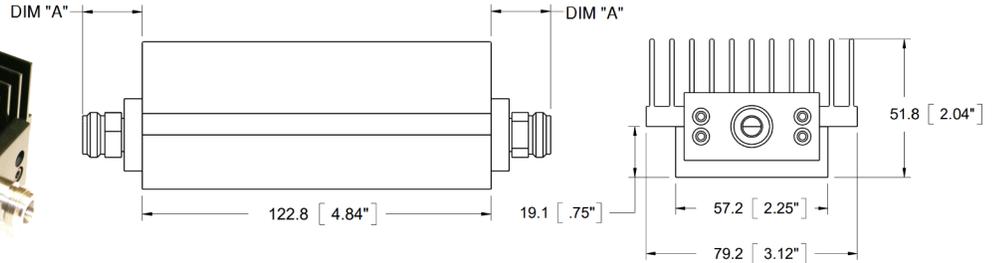
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA49

DC – 8.5 GHz

150 WATTS



Features

Type N, DIN 7/16, SMA or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Nominal dB Values: 3 – 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: 150 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125° C. 5 kW peak power (5 µsec pulse width, 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA49
3 - 30	0.75
40	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA49
DC - 4.0	1.2
4.0 - 8.5	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.90 (31.8)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

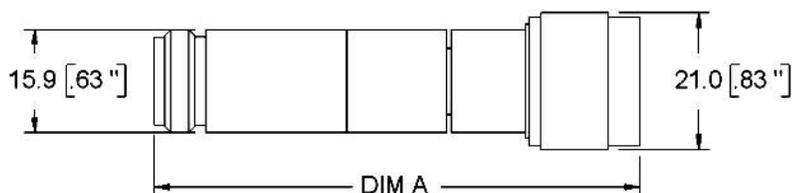
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA50

WA50: DC – 3.0 GHz

2.0 WATTS



Features

Type N-type stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3 GHz.

Nominal dB Values: 1 - 50 dB

Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, derated linearly to 0 W at 125°C. 1 kW peak (5 µsec pulse width, 0.1% duty cycle).

Temperature Range: -30°C to 70°C

Construction: Stainless steel barrel with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Model WA50 is also available in a calibrated attenuator set WAS1 (3, 6, 10 and 20dB) with certificate of calibration.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA50
0 - 12	0.5
13 - 20	0.7
21 - 40	1.0
41 - 60	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA50
DC - 1.0	1.15
1.0 - 3.0	1.2

Dimensions and Weight:

Attenuation (dB)	WA50		
	Length (Dim "A")	Diameter	Weight
1 - 30	74.4 (2.93)	16.0 (.63)	.10 (3.5)
31 - 60	84.6 (3.33)	16.0 (.63)	.13 (4.5)

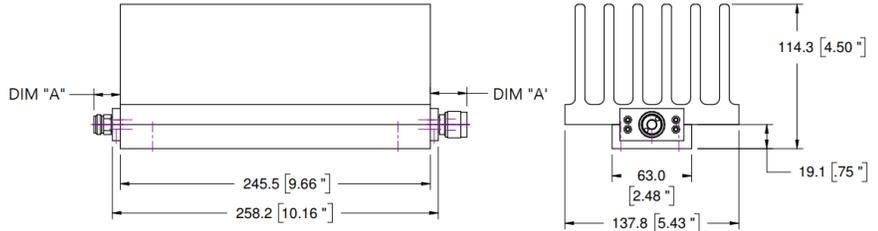
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA51

DC – 8.5 GHz

500 WATTS



Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA51
10, 20, 30, 40	2.0

Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 8.5 GHz

Nominal dB Values: 10 – 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **500 W** maximum average rated power to 25°C ambient temperature, derated linearly to 25 W at 125°C. **5 kW** peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA51
DC - 4	1.25
4 - 8.5	1.45

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.57)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 4.1 (144.6)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

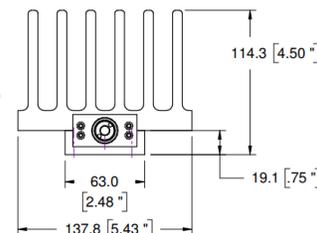
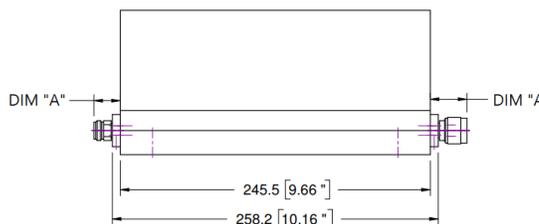
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA53

DC – 3.0 GHz

500 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 3.0 GHz

Nominal dB Values: 3 – 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **500 W** maximum average rated power to 25°C ambient temperature, derated linearly to 50 W at 125°C. **10 kW** peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA53
3 - 10	1.0
20 - 40	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA53
DC - 3.0	1.1

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.57)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 4.1 (144.6)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

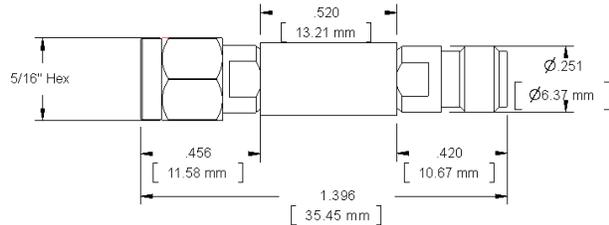
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA54

DC - 40 GHz

2 WATTS



Features

Precision 2.92mm stainless steel M/F connectors per MIS-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40 GHz.

Nominal dB Values: 1 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, de-rated linearly to 0.1W at 100°C, 200 W peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHs Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost. *Model WA54 is also available in a calibrated attenuator set WAS54 (3, 6, 10 and 20 dB) with certificate of calibration.*

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 26.5 GHz	26.5 - 40 GHz
3 - 6	0.5	1.0
10 - 20	1.0	1.0
30	2.0	2.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.25
26.5 - 40.0	1.45

Dimensions:

WA54	
Length:	35.5 (1.4)
Body Diameter:	6.4 (.25)
Weight:	.008 (.28)

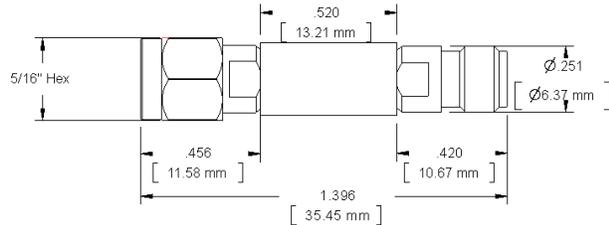
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA54CH

DC - 40 GHz

2 WATTS



Features

Precision 2.92mm stainless steel M/F connectors per MIS-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Model WA54CH combines the performance of the WA54 with a more compact package.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40 GHz.

Nominal dB Values: 1 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly from 100% at 25°C to 10% at 125°C, **200 W** peak (2 µsec pulse width, 0.1% duty cycle).

Temperature Range: -65°C to +125°C.

Temperature Coefficient: < 0.0005 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHs Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 26.5 GHz	26.5 - 40 GHz
0 - 6	0.5	1.0
7 - 20	0.75	1.0
25 and 30	0.8	1.25

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.3
26.5 - 40.0	1.4

Dimensions:

WA54CH

Length:	22.1 (0.87)
Body Diameter:	8 (.315)
Weight:	.005 (.167)

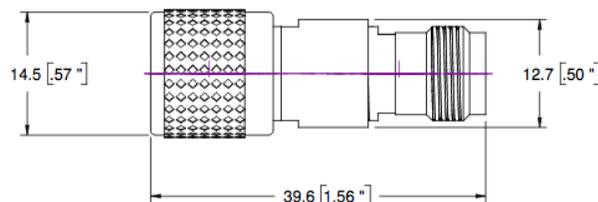
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA55

WA55/6: DC – 6.0 GHz
WA55: DC – 18 GHz

5 WATTS



Features

TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA55/6: DC - 6.0 GHz.
WA55: DC - 18 GHz.

Nominal dB Values: 1 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA55/6	WA55
1 - 6	0.3	0.4
7 - 20	0.4	0.5
21 - 30	0.8	0.9

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA55/6	WA55
DC - 4.0	1.15	1.15
4.0 - 6.0	1.2	1.2
6.0 - 8.0	N/A	1.2
8.0 - 12.4	N/A	1.25
12.4 - 18.0	N/A	1.45

Dimensions and Weight (both models):

Diameter: 12.7 (.50)
Length: 39.8 (1.56)
Weight: .03 (1.06)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

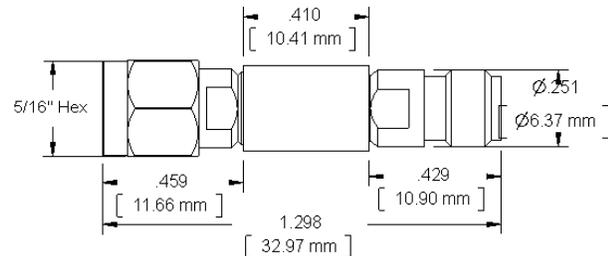
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA56

DC - 32 GHz

2 WATTS



Features

3.5mm stainless steel M/F connectors per MIS-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 32 GHz.

Nominal dB Values: 0 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, de-rated linearly to 0.1W at 100°C, 200 W peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHs Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 26.5 GHz	26.5 - 32 GHz
1, 2	0.6	0.8
3, 6	0.5	0.8
10	0.6	0.8
11 -30	0.75	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.25
26.5 - 32.0	1.35

Dimensions:

Length:	33.0 (1.3)
Body Diameter:	7.1 (.23)
Weight:	.008 (.28)

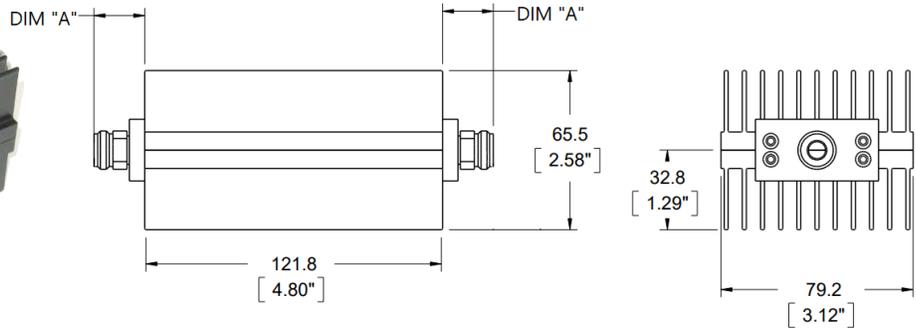
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA57

DC – 5.0 GHz

150 WATTS



Features

Type N, 7/16 DIN, SMA or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz.

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **150 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. **10 kW** peak power (5 µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA57
3 - 20	1.25
21 - 40	1.5

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA57	
	Input	Output
DC - 2.0	1.1	1.2
2.0 - 5.0	1.15	1.2

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Dimensions:

Weight: 1.0 (35.3)
Height: 65.5 (2.58)
Width: 79.2 (3.12)

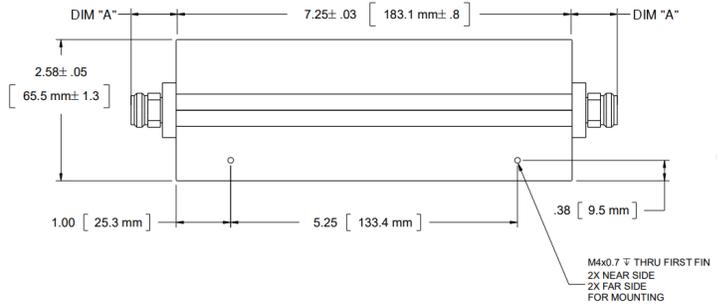
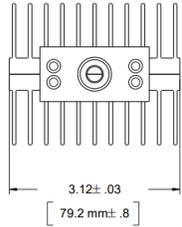
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is

Fixed Coaxial Attenuator

WA58

DC – 5.0 GHz

250 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 5.0 GHz

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **250 W** maximum average rated power to 25°C ambient temperature, derated linearly to 25 W at 125°C. **10 kW** peak power (5 µsec pulse width, 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA58
3 - 20	1.5
21 - 40	1.75

Maximum VSWR:

Frequency (GHz)	VSWR
	WA58
DC - 2.0	1.2
2.0 - 5.0	1.25

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.57)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.3 (45.9)
Height: 65.5 (2.58)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA59

DC – 2.5 GHz (Useable to 3.0 GHz)

100 WATTS



Features

Type N, SMA or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. *Flat body with 6-32 mounting holes for conductive cooling.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 2.5 GHz

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: **100 W** maximum average rated power with case temperature held to 100°C using conductive heat sink. **10 kW** peak power (5 µsec pulse width, 0.5% duty cycle).

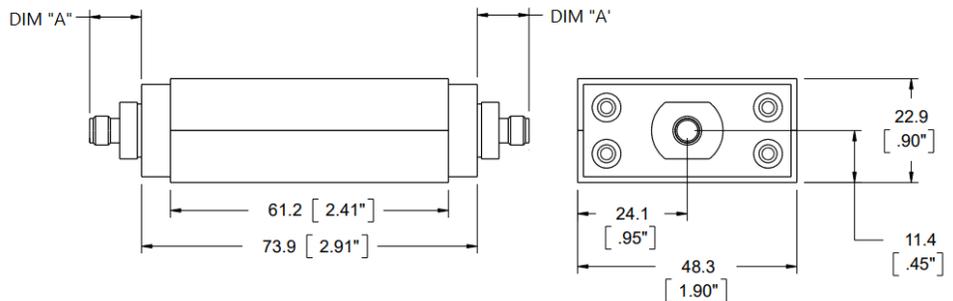
Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.



Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA59
3 - 40	0.7

Maximum VSWR:

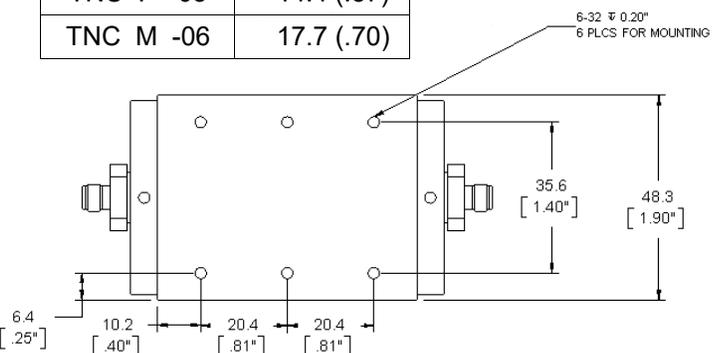
Frequency (GHz)	VSWR
	WA59
DC - 2.5	1.2

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.14 (4.9)
Height: 22.9 (0.9)
Width: 48.3 (1.9)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

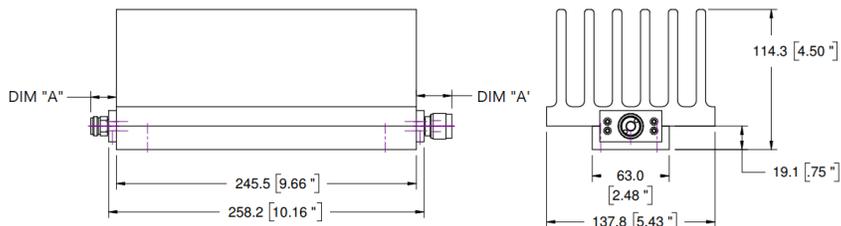


Fixed Coaxial Attenuator

WA60

DC – 5.0 GHz

500 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 5.0 GHz

Nominal dB Values: 10 – 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **500 W** maximum average rated power to 25°C ambient temperature, derated linearly to 25 W at 125°C. **5 kW** peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA60
10 - 30	0.75
31 - 40	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA60
DC - 2.5	1.15
2.5 - 5.0	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.57)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 4.1 (144.6)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

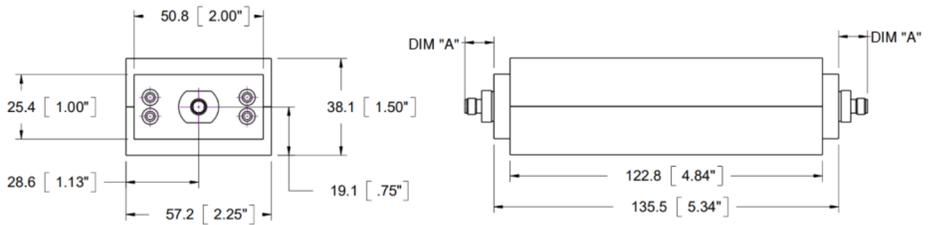
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA61 & WA62

WA61: DC – 4 GHz
WA62: DC – 8.5 GHz

150 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. *Flat body with 6-32 mounting holes for conductive cooling.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA61: DC - 4 GHz.
 WA62: DC - 8.5 GHz.

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.0006 dB/dB/W;
 Unidirectional in power.

Power Rating: **150 W** maximum rated average power with case temperature held to +100° C using conductive heat sink. **5 kW** peak power (5 µsec pulse width, 1.5% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add *-LIM* after connector option to specify low intermodulation.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA61	WA62 (0 - 4 GHz)	WA62 (4 - 8.5 GHz)
3 - 30	0.4	0.4	0.75
40	0.5	0.5	1.0

Maximum VSWR:

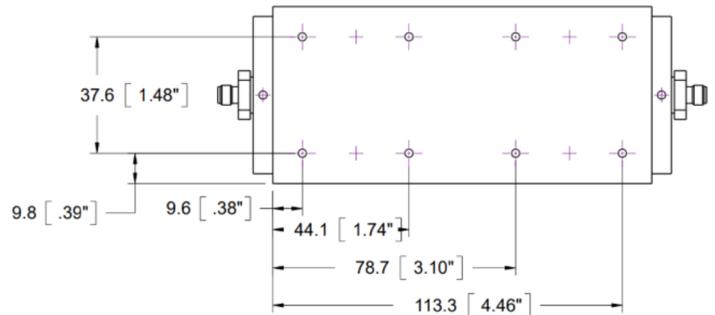
Frequency (GHz)	VSWR	
	WA61	WA62
DC - 4.0	1.2	1.2
4.0 - 8.5	N/A	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.57)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 0.8 (28.2)
Height: 38.1 (1.5)
Width: 57.2 (2.25)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

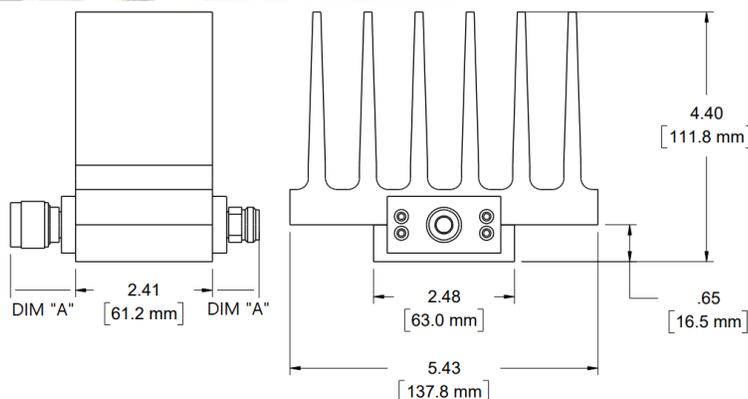


Fixed Coaxial Attenuator

WA65

DC – 3.0 GHz

150 WATTS



Features

Type N, DIN 7/16, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 3.0 GHz

Nominal dB Values: 3 - 30 dB

Power Coefficient: < 0.0003 dB/dB/W;
Unidirectional in power.

Power Rating: **150 W** maximum average power to +25°C ambient temperature, de-rated linearly to 15 W at +125°C. **10 kW** peak (5 µsec pulse width; 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA65
3 - 30	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA65
DC - 3.0	1.2

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	14.4 (.57)
DIN 7/16 M -08	17.7 (.70)

Weight: 0.86 (30.3)
Height: 111.8 (4.4)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

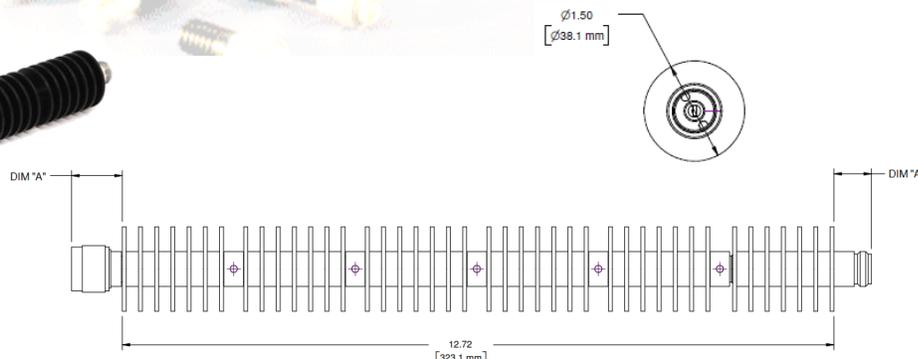
Fixed Coaxial Attenuator

WA66

WA66/12: DC - 12.4 GHz

WA66: DC - 18.0 GHz

150 WATTS



Features

Type N or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA66/12: DC to 12.4 GHz
WA66: DC to 18 GHz

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.00015 dB/dB/W;
Unidirectional in power.

Power Rating: 150 W maximum average power to +25°C ambient temperature, de-rated linearly to 10 W at +125°C. 1 kW peak (5 μsec pulse width; 7.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA66/12	WA66
10	1.5	2.0
20 - 40	1.2	1.5

Maximum VSWR

Frequency (GHz)	VSWR			
	WA66/12 10 Db	WA66/12 20-40 dB	WA66 10 dB	WA66 20-40 dB
DC - 12.4	1.9	1.5	1.9	1.5
12.4 - 18	N/A	N/A	1.9	1.5

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)

Weight: 0.51 (18.0)
Diameter: 38.1 (1.5)

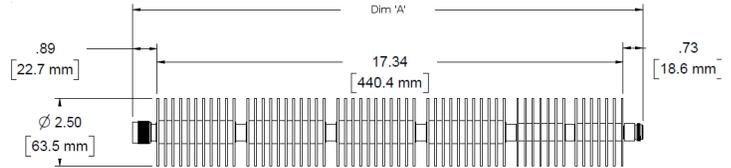
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA67

WA67: DC – 12 GHz

350 WATTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 12 GHz

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **350 W** maximum average power to +25°C ambient temperature, de-rated linearly to 10 W at +100°C (Case temperature must be held to 100°C maximum). **5 kW** peak (5 µsec pulse width; 3.5% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 8 GHz	8 to 12 GHz
10	2.0	+6.0/-0.0
20, 30	2.5	5.0/-0.0
40	2.5	6.0/-0.0

Maximum VSWR

Frequency (GHz)	VSWR WA67
DC - 8.0	1.3
8.0 - 12	1.6

Dimensions:

Attenuation (dB)	WA67	
	Length (Dim "A")	Weight
10	427 (16.79)	1.15 (40.5)
20, 30, 40	482 (18.96)	1.3 (45.6)

Diameter: 64.77 (2.55)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

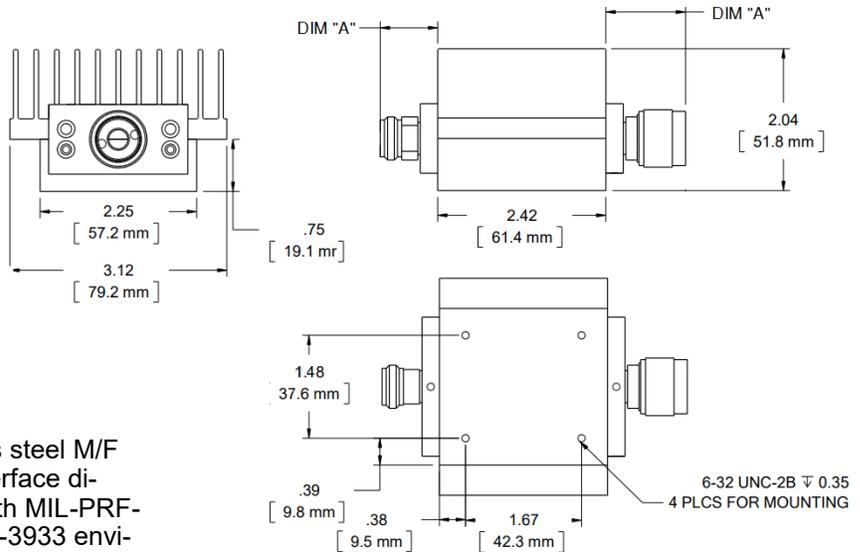
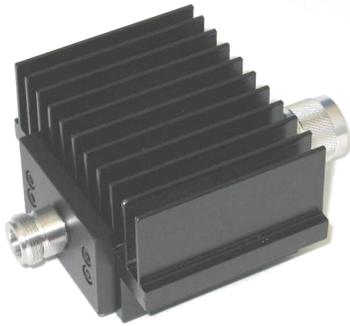
Options: Stands.

Fixed Coaxial Attenuator

WA68

WA68: DC – 6.0 GHz

100 WATTS



Features

Type N, DIN 7/16, or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. *Can be mounted in any position utilizing the 6-32 holes provided on the bottom of the unit.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 6.0 GHz

Nominal dB Values: 1 - 30 dB

Power Coefficient: < 0.0005 dB/dB/W;
Bidirectional in power.

Power Rating: **100 W** maximum average power to +25°C ambient temperature, de-rated linearly to 10 W at +125°C. **5 kW** peak (5 μ sec pulse width; 1% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy \pm dB
	WA68
1 - 2	1.2
3 - 30	1.25

Maximum VSWR: 1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 0.55 (19.2)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA70

DC – 2.5 GHz (Usable to 3 GHz)

1000 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. DIN 7/16 connector, conforms to DIN 47223, IEC 169-4, VG 95250, CECC 22190.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 2.5 GHz (Usable to 3.0 GHz)

Nominal dB Values: 20, 30, 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

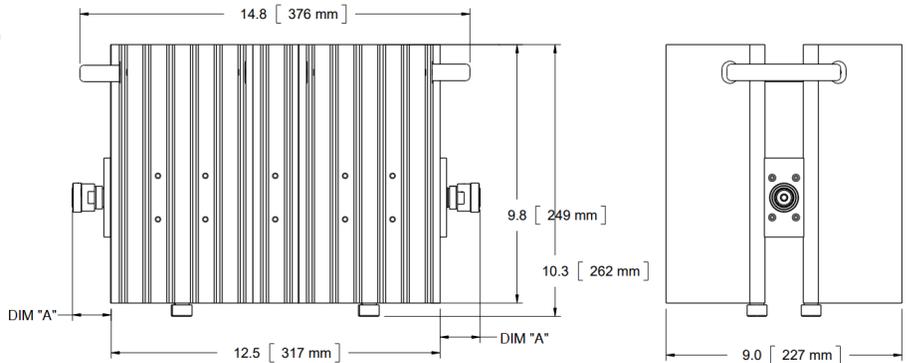
Power Rating: **1000 W** maximum average power to +25°C ambient temperature, de-rated linearly to 100 W at +125°C. **10 kW** peak (5 µsec pulse width; 5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.



Standard Nominal Values and Deviations:

Attenuation Accuracy: +/- 1.5 dB

Maximum VSWR: 1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 18.2 (19.2)
Height: 249 (9.8)
Width: 227 (9.0)

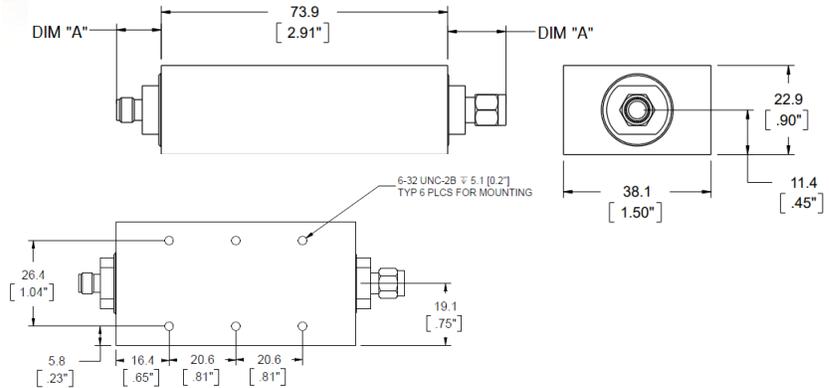
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA71 & WA72

WA71: DC – 4 GHz
WA72: DC – 8.5 GHz

50 WATTS



Features

Type N, SMA, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Flat body with 6-32 mounting holes for conductive cooling.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA71: DC - 4 GHz.
 WA72: DC - 8.5 GHz.

Nominal dB Values: 1 - 40 dB
 (50 dB available in a unidirectional variant)

Power Coefficient: < 0.005 dB/dB/W;
 Unidirectional in power.

Power Rating: 50 W maximum rated average power with case temperature held to +100°C using conductive heat sink. 5 kW peak power (5 µsec pulse width, .5% duty cycle).

Temperature Range: -25°C to +100°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB		
	WA71	WA72 (0 - 4 GHz)	WA72 (4 - 8.5 GHz)
1 - 40	0.4	0.4	0.75

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA71	WA72
DC - 4.0	1.2	1.2
4.0 - 8.5	N/A	1.3

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: .14 (4.94)
Height: 22.9 (0.90)
Width: 38.1 (1.50)

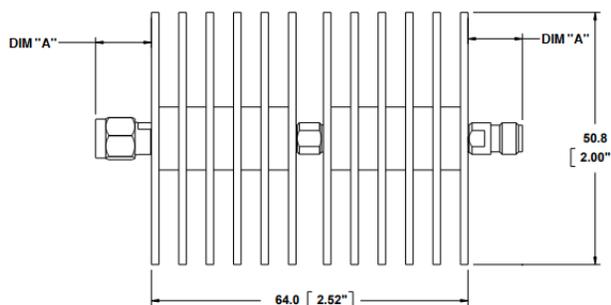
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA73

DC – 26.5 GHz

50 WATTS



Features

3.5 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 26.5 GHz.

Nominal dB Values: 6 – 40 dB

Power Coefficient: < 0.0015 dB/dB/W;
Unidirectional in power.

Power Rating: **50 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C. **500 W** peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA73
6, 10	1.25
20, 30	1.5
40	1.75

Maximum VSWR:

Frequency (GHz)	VSWR
	WA73
DC - 18	1.3
18 - 26.5	1.45

Dimensions:

Weight: 0.2 (7.1)
Diameter: 50.8 (2.0)

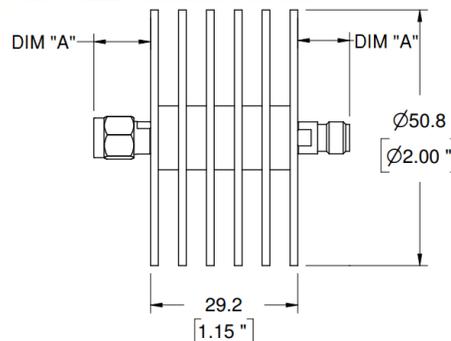
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA74

DC – 28 GHz

25 WATTS



Features

3.5 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 28 GHz.

Nominal dB Values: 3 - 30 dB

Power Coefficient: < 0.0006 dB/dB/W;
Bidirectional in power.

Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 500 W peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA74
3	0.7
6 - 10	1.0
20 - 30	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA74
DC - 18	1.3
18 - 28	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
3.5mm F -11	10.7 (.42)
3.5mm M -12	11.6 (.46)

Weight: 0.1 (3.5)
Diameter: 50.8 (2.0)

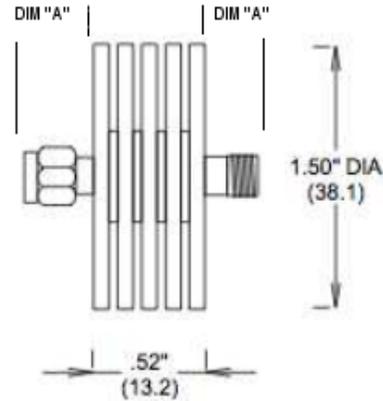
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA75

DC – 40 GHz

5 WATTS



Features

Precision 2.92 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 1 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 125°C. 200 W peak power (5 µsec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 18 GHz	18 to 40 GHz
3	0.5	1.0
6, 10, 20, 30	0.8	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA75
DC - 18	1.25
18 - 40	1.45

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	2.92mm F -13
2.92mm M -14	11.5 (.45)

Weight: .06 (2.12)
Diameter: 38.1 (1.5)

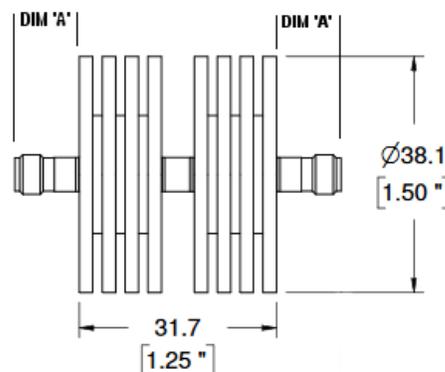
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA76

DC – 40 GHz

10 WATTS



Features

Precision 2.92 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 6 - 30 dB
(6 dB unit is bidirectional)

Power Coefficient: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: 10 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 125°C. 200 W peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 18 GHz	18 to 40 GHz
6 - 30	1.0	1.75

Maximum VSWR:

Frequency (GHz)	VSWR
	WA76
DC - 18	1.25
18 - 40	1.4

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
2.92mm F -13	10.6 (.42)
2.92mm M -14	11.5 (.45)

Weight: .145 (5.11)
Diameter: 38.1 (1.5)

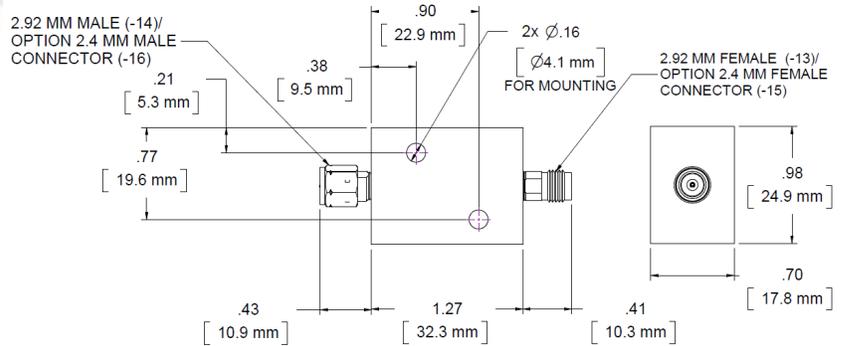
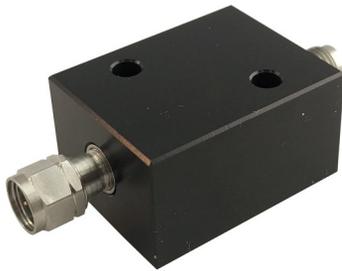
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA76B

DC – 40 GHz

10 WATTS



Features

Precision 2.92 mm stainless steel M/F connectors per IEEE P287, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements. Mountable design for convection cooling.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 3 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: 10 W maximum average rated power with case held to a maximum of +90°C. 200 W peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +90°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 18 GHz	18 to 40 GHz
3 - 30	1.0	1.75

Maximum VSWR:

Frequency (GHz)	VSWR
	WA76B
DC - 18	1.25
18 - 40	1.4

Dimensions:

Weight: 45.9 (1.62)
Height: 24.9 (0.98)
Width: 17.8 (.70)
Length: 53.6 (2.11)
Mounting: 2x 4.1 (0.16) thru holes.

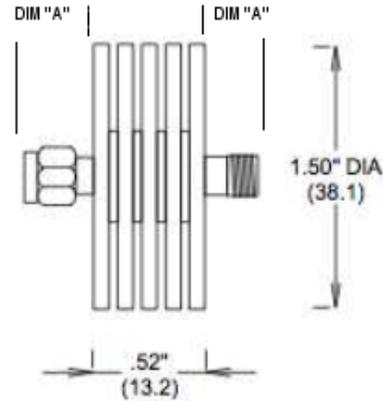
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA77

DC – 32 GHz

5 WATTS



Features

3.5 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 32.0 GHz.

Nominal dB Values: 0 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: 5 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 125°C. 200 W peak power (5 µsec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 26.5 GHz	26.5 to 32 GHz
1, 2	0.6	0.8
3, 6	0.5	0.8
10	0.6	0.8
11 - 30	0.75	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA77
DC - 26.5	1.25
26.5 - 32	1.35

Dimensions:

Connector Type (- code)	Length Dimension 'A'
3.5mm F -11	10.6 (.42)
3.5mm M -12	11.5 (.45)

Weight: .06 (2.12)
Diameter: 38.1 (1.5)

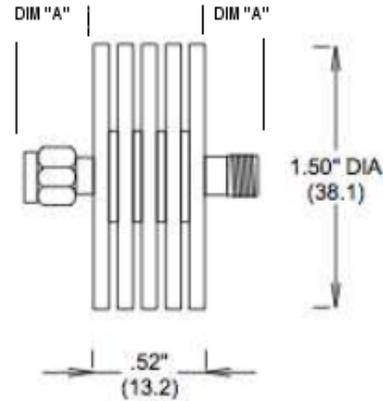
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA78

DC – 26.5 GHz

10 WATTS



Features

3.5 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 26.5 GHz. (useable to 32 GHz)

Nominal dB Values: 6 - 30 dB (6 dB unit is bidirectional)

Power Coefficient: < 0.005 dB/dB/W; Unidirectional in power.

Power Rating: 10 W. Maximum rated average power to +25 C ambient temperature, derated linearly to 0 W at +125 . **200 W** peak power (5 usec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 26.5 GHz	26.5 to 32 GHz
1, 2	0.6	0.8
3, 6	0.5	0.8
10	0.6	0.8
11 - 30	0.75	1.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA77
DC - 18.0	1.25
18.0 - 26.5	1.4

Dimensions:

Connector Type (- code)	Length Dimension 'A'
3.5mm F -11	10.6 (.42)
3.5mm M -12	11.5 (.45)

Weight: .06 (2.12)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA80

DC – 2.5 GHz (Usable to 3 GHz)

2000 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. DIN 7/16 connector, conforms to DIN 47223, IEC 169-4, VG 95250, CECC 22190. Forced air cooling.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 2.5 GHz (Usable to 3.0 GHz)

Nominal dB Values: 20, 30, 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

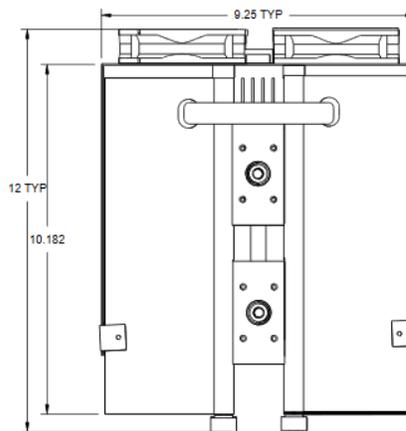
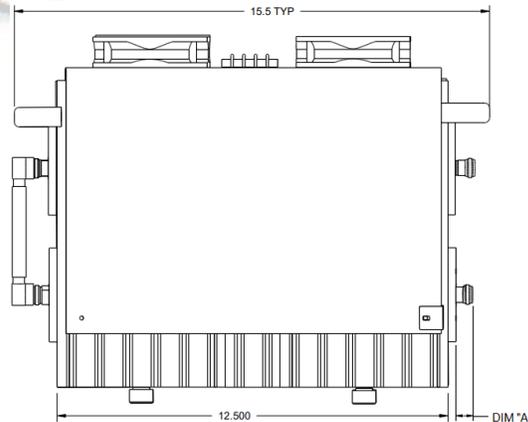
Power Rating: 2000 W maximum average power to +25°C ambient temperature, de-rated linearly to 100 W at +125°C. 10 kW peak (5 µsec pulse width; 10% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.



Attenuation Accuracy:

Attenuation (dB)	Accuracy ± dB
	WA80
20	+3.5/-3.0 dB
30, 40	+/- 2.5 dB

Maximum VSWR: 1.35

Dimensions:

Height:	295.0 (11.61)
Width:	234.0 (9.21)
Length:	394.0 (15.5)
Weight:	20.55 (724.8)

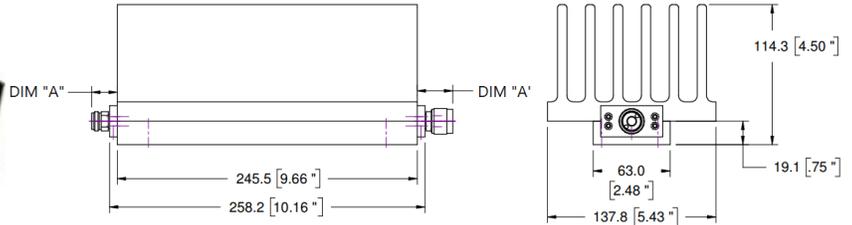
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional con-

Fixed Coaxial Attenuator

WA81

DC – 10.0 GHz

500 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 10.0 GHz

Nominal dB Values: 10 – 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: **500 W** maximum average rated power to 25°C ambient temperature, derated linearly to 25 W at 125°C. **5 kW** peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC - 7GHz	7 to 10 GHz
10,20,30, 40	2.0	+3.0/-0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA81
DC - 4.0	1.25
4.0 - 8.0	1.45
8.0 - 10.0	1.7

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 4.1 (144.6)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

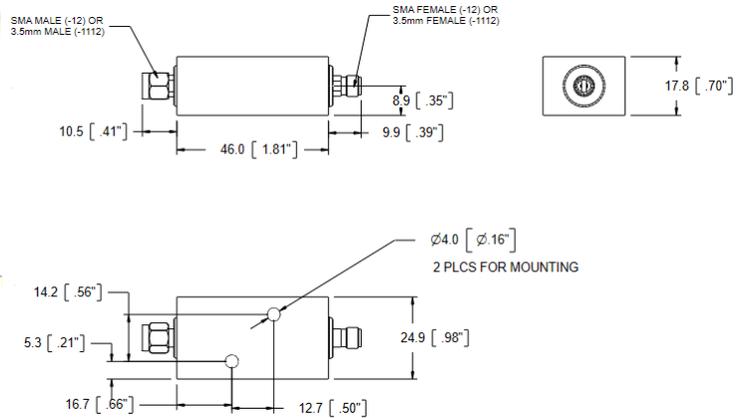
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Fixed Coaxial Attenuator

WA86

DC – 22.0 GHz

50 WATTS



Features

Type SMA and 3.5 mm connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specifications.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 22.0 GHz

Nominal dB Values: 3 – 40 dB

Power Coefficient: < 0.0006 dB/dB/W;
Bidirectional in power.

Power Rating: **50 W** Maximum rated average power with case temperature held to a maximum of +90°C . **1 kW** peak power (5 μsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +90°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black anodized aluminum housing. Passivated stainless steel connector body. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations: Maximum VSWR:

Attenuation (dB)	Accuracy ± dB
3, 6, 10	+/- 0.8
20, 30	+/- 0.8
40	+/- 1.0

Dimensions:

Frequency (GHz)	VSWR
	WA86
DC - 8.0	1.20
8.0 - 12.4	1.25
12.4 - 22	1.35

Weight: 4.1 (144.6)

Height: 114.3 (4.5)

Width: 137.8 (5.43)

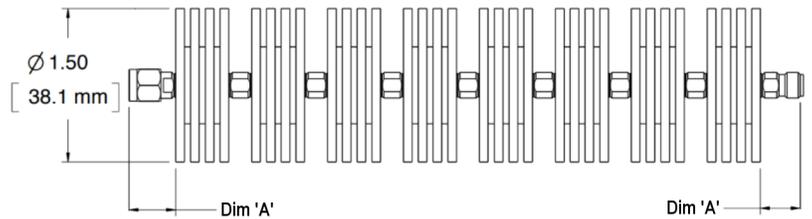
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA88

DC – 40 GHz

50 WATTS



Features

Precision 2.92 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 20, 30, 40 dB

Power Coefficient: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: **50 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 100°C. **200 W** peak power (5 µsec pulse width, 10% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 18 GHz	18 to 40 GHz
20, 30, 40	2.5	3.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA88
DC - 18.0	1.3
18.0 - 40.0	1.6

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	2.92mm F -13
2.92mm M -14	11.5 (.45)

Weight: 0.26 (9.17)
Diameter: 38.1 (1.5)

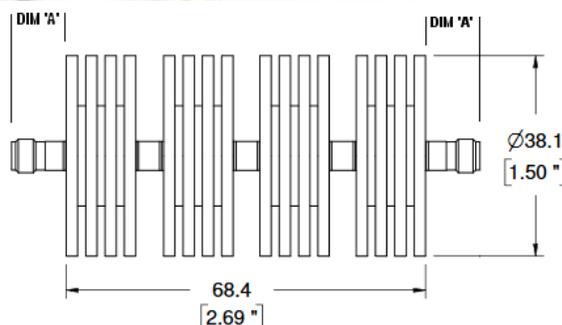
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA89

DC – 40 GHz

20 WATTS



Features

Precision 2.92 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact construction meets a wide range of design requirements.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40.0 GHz.

Nominal dB Values: 10 - 30 dB

Power Coefficient: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: 20 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 125°C. 200 W peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	DC to 18 GHz	18 to 40 GHz
10 - 30	1.25	+2.5/-0.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA88
DC - 18.0	1.25
18.0 - 40.0	1.4

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	2.92mm F -13
2.92mm M -14	11.5 (.45)

Weight: 0.2 (7.1)
Diameter: 38.1 (1.5)

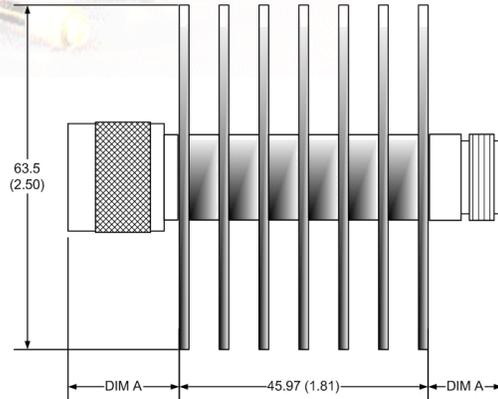
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA90

WA90/12: DC – 12.4 GHz
WA90: DC – 18.0 GHz

50 WATTS



Features

Type N, TNC or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA90/12: DC - 12.4 GHz.
 WA90: DC - 18.0 GHz.

Nominal dB Values: 3 - 40 dB
 (WA90/12 available in 50 and 60 dB variants)

Power Coefficient: < 0.0006 dB/dB/W;
 Bidirectional in power.

Power Rating: 50 W maximum rated average power at 25°C, de-rated linearly to 5 W at 125°C. 1 kW peak power (5 μsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA90/12	WA90
3	0.4	0.5
6	0.6	0.5
10	0.5	0.8
20	0.75	1.0
30	1.0	1.0
40 (50, 60)	1.0	2.0

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA90/12	WA90
DC - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.35

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.2 (7.1)
Diameter: 63.5 (2.5)

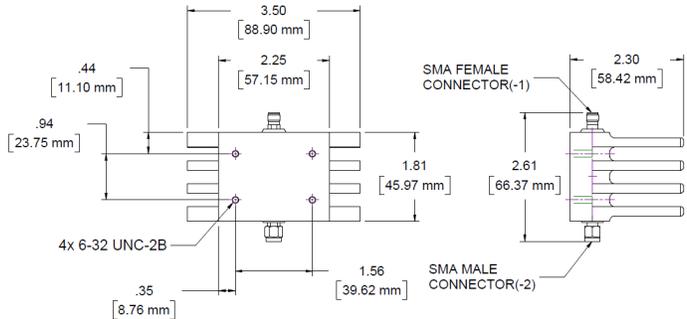
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Addition-

Fixed Coaxial Attenuator

WA90B

WA90B: DC – 18.0 GHz

50 WATTS



Features

Type N, SMA, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.0006 dB/dB/W;
Bidirectional in power.

Power Rating: **50 W** maximum rated average power at 25°C, de-rated linearly to 5 W at 125°C. **1 kW** peak power (5 μsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA90B
3, 6, 10	0.5
20	0.75
30, 40	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA90B
DC - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Dimensions:

Connector Type (- code)	Length
	Dim 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: .41 (14.4)
Height: 58.5 (2.3)
Width: 89 (5.43)

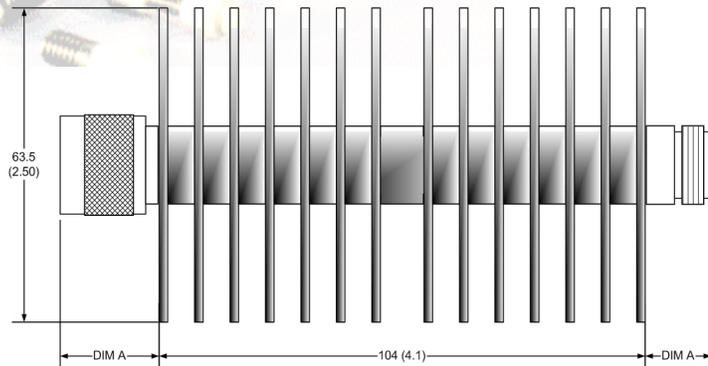
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA91

WA91/12: DC – 12.4 GHz
WA91: DC – 18.0 GHz

100 WATTS



Features

Type N, SMA, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA91/12: DC - 12.4 GHz.
 WA91: DC - 18.0 GHz.

Nominal dB Values: 3 - 40 dB

Power Coefficient: < 0.0005 dB/dB/W;
 Unidirectional in power. (3 and 6 dB units are bidirectional)

Power Rating: **100 W** maximum rated average power at 25°C, de-rated linearly to 10 W at 125°C. **1 kW** peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA91/12	WA91
3, 6	1.0	1.0
10	0.75	0.75
20	1.0	1.0
30, 40	1.2	1.2

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA91/12	WA91	WA91 at 3 or 6 dB
DC - 8.0	1.2	1.2	1.2
8.0 - 12.4	1.25	1.25	1.25
12.4 - 18.0	N/A	1.35	1.45

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.35 (12.3)
Diameter: 63.5 (2.5)

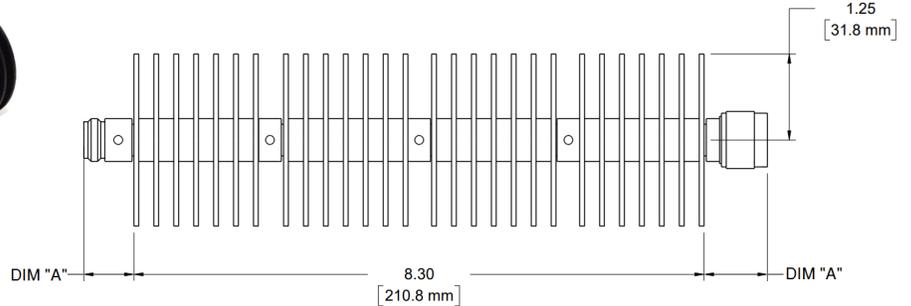
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA92

WA92/12: DC – 12.4 GHz
WA92: DC – 18.0 GHz

150 WATTS



Features

Type N, SMA, or TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA92/12: DC - 12.4 GHz.
 WA92: DC - 18.0 GHz.

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.0002 dB/dB/W;
 Unidirectional in power.

Power Rating: 150 W maximum rated average power at 25°C, de-rated linearly to 10 W at 125°C. 1 kW peak power (5 µsec pulse width, 7.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB	
	WA92/12	WA92
10	2.0	2.0
20, 30, 40	1.5	1.5
LIM	3.0	3.0

Maximum VSWR:

Frequency (GHz)	VSWR			
	WA92/12 (10 dB)	WA92/12 (20 - 40 Db)	WA92 (10dB)	WA92 (20 - 40 dB)
DC - 12.4	1.6	1.5	1.6	1.5
12.4 - 18.0	N/A	N/A	1.6	1.5
LIM	1.5	1.5	1.5	1.5

Dimensions:

Connector Type (- code)	Length Dimension 'A'
	SMA F -01
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.35 (12.3)
Diameter: 63.5 (2.5)

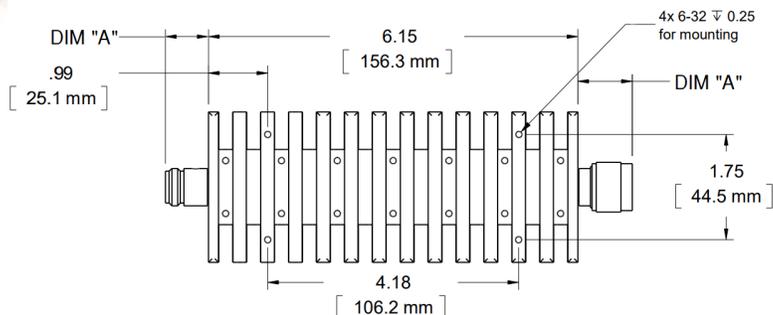
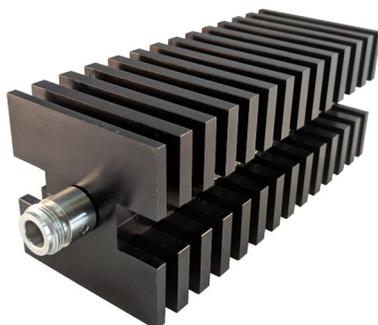
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA93

DC – 18.0 GHz

100 WATTS



Features

SMA, Type N, and TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18 GHz

Nominal dB Values: 10 - 30 dB

Power Sensitivity: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 100 W maximum rated average power at 25°C, de-rated linearly to 10 W at 125°C. 1 kW peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black finned aluminum alloy body with passivated stainless steel connectors and gold plated beryllium copper contact. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy ± dB
	WA93
10	1.5
20 - 30	1.4

Maximum VSWR:

Frequency (GHz)	VSWR
	WA93
DC - 8.0	1.25
8.0 - 12.4	1.3
12.4 - 18.0	1.4

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Height: 63.5 (2.5)
Width: 63.5 (2.5)
Weight: 1.5 (52.9)
Mounting: 4x 6-32 thru

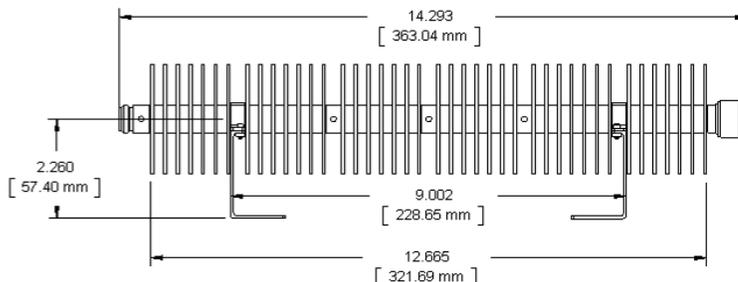
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Fixed Coaxial Attenuator

WA95

WA95/12: DC – 12.4 GHz
WA95: DC – 18.0 GHz

200 WATTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA95/12: DC - 12.4 GHz.
 WA95: DC - 18.0 GHz.

Nominal dB Values: 10 - 40 dB

Power Coefficient: < 0.0001 dB/dB/W;
 Unidirectional in power.

Power Rating: **200 W** maximum rated average power at 25°C, de-rated linearly to 20 W at 100°C. **1 kW** peak power (5 µsec pulse width, 10% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

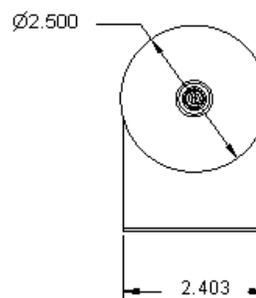
Attenuation (dB)	Accuracy (dB)	
	WA95/12	WA95
3	+1.0/-0.75	+1.75/-0.75
6	+2.0/-1.0	+3.5/-1.0
10 - 40	+2.0/-1.5	+3.0/-2.0

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA95/12	WA95
DC - 12.4	1.6	1.6
12.4 - 18.0	N/A	1.6

Dimensions:

Diameter: 63.5 (2.5)



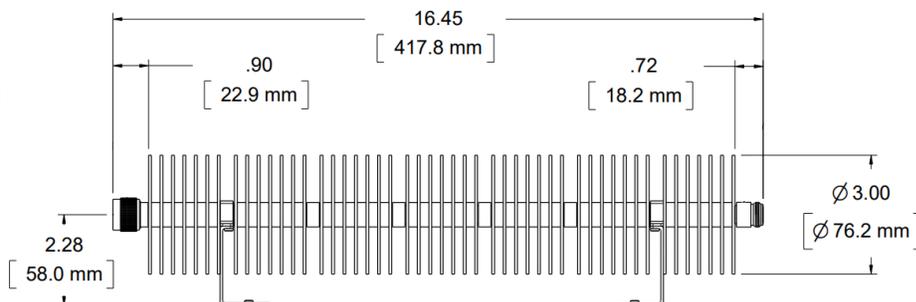
Length: 363.04 (14.29)
 Weight: 1.01 (35.82)

Fixed Coaxial Attenuator

WA96

DC – 18.0 GHz

250 WATTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Mounting stands included.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18 GHz

Nominal dB Values: (10, 20, 30, 40) dB

Power Sensitivity: < 0.0001 dB/dB/W;
Unidirectional in power.

Power Rating: 250 W maximum rated average power at 25°C, de-rated linearly to 20 W at 125°C. 1 kW peak power (5 µsec pulse width, 3.5% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: <0.0004 dB/dB/°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors and gold plated beryllium copper contacts. RoHS Compliant.

Calibration: Insertion Loss and VSWR performed across frequency range. Calibration test data available at additional cost.

Standard Nominal Values and Deviations:

Attenuation (dB)	Accuracy (dB)
	WA96
10, 20, 30, 40	+4.0/-2.5

Maximum VSWR: 1.6

Dimensions:

Height:	96.1 (3.78)
Diameter:	76.2 (3.0)
Length:	417.8 (16.45)
Weight:	1.59 (.56)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

COAXIAL TERMINATIONS

DC – 50.0 GHz

0.5 - 2000 WATTS

Low Power Coaxial Terminations: 1 Watt to 10 Watts					
Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Connectors and Mounting Notes	Page No.
WA1405	0.5	50	0.25	2.4 mm	88
WA1401/3	1	3	0.25	SMA	86
WA1401/6	1	6	0.25	SMA	86
WA1401/12	1	12.4	0.25	SMA	86
WA1401/18	1	18	0.25	SMA	86
WA1401/20	1	20	0.25	SMA	86
WA1401/26	1	26.5	0.25	SMA	86
WA1402	1	40	0.5	2.92 mm	87
WA1455/6	2	6	1	N, TNC	126
WA1418	2	6	0.50	BNC	91
WA1406	2	12.4	0.50	SMA	89
WA1455/12	2	12.4	1	N, TNC	126
WA1408	2	18	0.5	SMA	89
WA1455	2	18	1	N, TNC	126
WA1409	2	26.5	0.50	SMA	90
WA1456	2	32.0	0.2	3.5 mm	127
WA1454	2	40	0.2	2.92 mm	125
WA1424/6	5	6	1	N, TNC	98
WA1443/6	5	6	1	SMA	115
WA1424/12	5	12.4	1	N, TNC	98
WA1443/12	5	12.4	1	SMA	115
WA1424	5	18	1	N, TNC	98
WA1443	5	18	1	SMA	115
WA1475	5	40	0.20	2.92 mm	138
WA1419/6	10	6	1	SMA	92
WA1425/6	10	6	1	N, TNC	99
WA1420	10	6	1	BNC	93
WA1419/12	10	12.4	1	SMA	92
WA1425/12	10	12.4	1	N, TNC	99
WA1419	10	18	1	SMA	92
WA1425	10	18	1	N, TNC	99
WA1476	10	40	0.20	2.92 mm	139
WA1489	20	40	0.20	2.92 mm	143

* Other configurations are available

Custom solutions at “off-the-shelf” prices

COAXIAL TERMINATIONS

DC – 50.0 GHz

0.5 - 2000 WATTS

Medium Power Coaxial Terminations: 20 Watts to 100 Watts

Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Connectors and Mounting Notes	Page No.
WA1434L	20	4	5	N, SMA, TNC, 7/16 DIN	110
WA1421/4	25	4	5	N, SMA, TNC, Low-Profile Mountable	94
WA1421	25	8.5	5	N, SMA, TNC, Low-Profile Mountable	94
WA1434	25	4	5	N, SMA, TNC, 7/16 DIN	108
WA1434B	25	4	5	N, SMA, TNC, Square Body Mountable	109
WA1452	25	4	5	N, SMA, TNC, 7/16 DIN	123
WA1433	25	8.5	5	N, SMA, TNC, 7/16 DIN	108
WA1433B	25	8.5	5	N, SMA, TNC, Square Body Mountable	109
WA1427	25	10	1	N, SMA, TNC	102
WA1446	25	18	1	N, SMA, TNC	118
WA1444	25	26.5	0.50	3.5 mm, 2.92 mm	116
WA1423	50	4	5	N, SMA, TNC, 7/16 DIN	96
WA1423B	50	4	5	N, SMA, TNC, Square Body Mount	97
WA1471	50	4	5	N, SMA, TNC, Low-Profile Mountable	136
WA1426	50	8.5	5	N, SMA, TNC	100
WA1426B	50	8.5	5	N, SMA, TNC Square Body Mount	101
WA1472	50	8.5	5	N, SMA, TNC, Low-Profile Mountable	136
WA1447	50	18	1	N, SMA	119
WA1490	50	18	1	N, SMA, TNC	144
WA1490B	50	18	1	N, SMA, TNC, Mountable	145
WA1473	50	28	0.5	3.5 mm	137
WA1488	50	40	0.2	2.92 mm	142
WA1422	75	4	5	N, SMA, TNC, 7/16 DIN	95
WA1429	75	8.5	5	N, SMA, TNC, 7/16 DIN	104
WA1459	100	3	10	N, SMA, TNC, Low-Profile Mountable	130
WA1459/6	100	6	10	N, SMA, TNC, Low-Profile Mountable	131
WA1430	100	4	5	N, SMA, TNC, 7/16 DIN	105
WA1432	100	4	5	N, SMA, TNC, 7/16 DIN	107
WA1431	100	8.5	5	N, SMA, TNC, 7/16 DIN	106
WA1448	100	18	1	N, SMA, TNC	120
WA1491	100	18	1	N, SMA, TNC	146

COAXIAL TERMINATIONS

DC – 50.0 GHz

0.5 - 2000 WATTS

High Power Coaxial Terminations: 150 Watts to 2000 Watts

Model Number	Average Power (W)	Frequency Range DC - (GHz)	Peak Power (kW)	Connectors and Mounting Notes	Page No.
WA1428	150	3	10	N, SMA, TNC, 7/16 DIN	103
WA1439	150	3	10	N, 7/16 DIN	114
WA1465	150	3	10	N, 7/16 DIN	133
WA1457	150	5	10	N, SMA, TNC, 7/16 DIN	128
WA1449	150	8.5	5	N, SMA, 7/16 DIN	121
WA1466	150	18	5	N, SMA, TNC	134
WA1495	200	18	1	N-type	147
WA1445	250	3	10	N, TNC, 7/16 DIN	117
WA1458	250	6	10	N, TNC, 7/16 DIN	129
WA1435	250	8.5	5	N, SMA, TNC, 7/16 DIN	111
WA1496	250	18	1	N, TNC	148
WA1438	300	5	5	N, 7/16 DIN	113
WA1436	300	8.5	5	N, 7/16 DIN	112
WA1453	500	3	10	N, 7/16 DIN	124
WA1460	500	5	10	N, 7/16 DIN	132
WA1451	500	8.5	5	N, 7/16 DIN	122
WA1481	500	10	5	N, 7/16 DIN	141
WA1470	1000	3	10	N, 7/16 DIN	135
WA1480	2000	3	10	N, 7/16 DIN	140

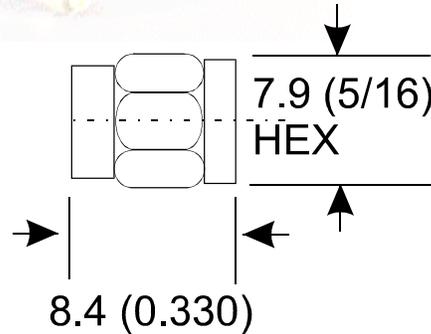
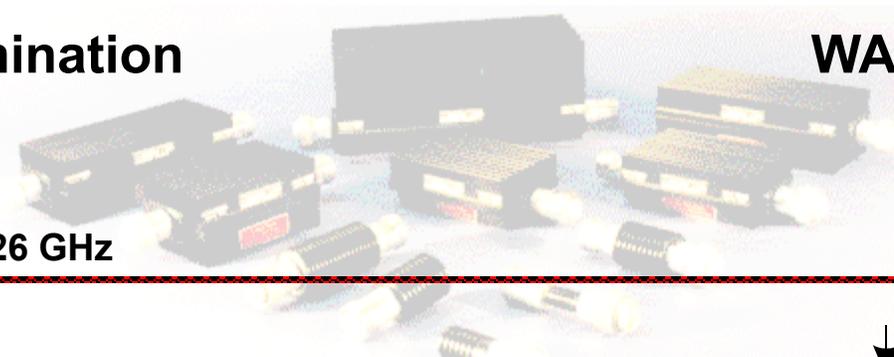


* Other configurations are available

Custom solutions at “off-the-shelf” prices

DC – 26 GHz

1 WATT



Features

Type SMA Male stainless steel connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. *Lightweight, subminiature design.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1401/3: DC to 3.0 GHz.
 WA1401/6: DC to 6.0 GHz.
 WA1401/12: DC to 12.4 GHz.
 WA1401/18: DC to 18.0 GHz.
 WA1401/20: DC to 20.0 GHz.
 WA1401/26: DC to 26.5 GHz.

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 125°C. 500 W peak power (5 µsec pulse width, 0.10% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connector. Gold plated beryllium copper contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Options: Chain

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1401 (all variants)
DC - 8.0	1.1 *
8.0 - 12.4	1.15
12.4 - 18.0	1.2
18.0 - 26.5	1.35

*Typically DC - 4 GHz < 1.05

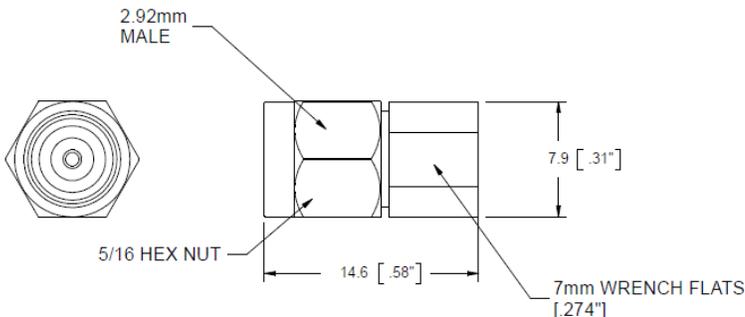
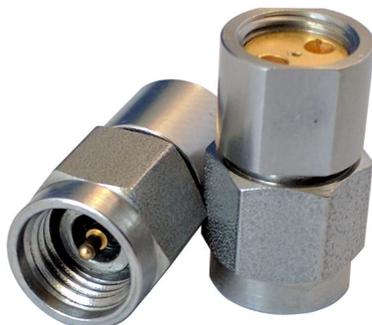
Dimension	Connector Type	
	SMA (F), -01	SMA (M) -02
Length (Dim A)	12.4 (.49)	8.4 (.33)
Weight (nominal)	1.8 (.064)	2.1 (.074)

Dimensions:

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 40 GHz

1 WATT



Features

Precision 2.92 mm M stainless steel connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. High frequency design.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 40 GHz

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 500 W peak power (5 µsec pulse width, 0.10% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connector. Gold plated beryllium copper contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Options: Chain
Female 2.92 mm

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1402
DC - 40.0	1.2

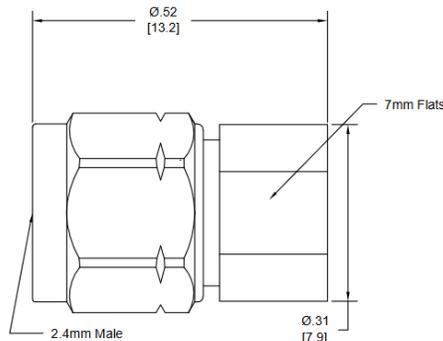
Dimensions:

Length: 14.5 (.57)
Weight: 3.83 (.135)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 50 GHz

0.5 WATT



Features

Precision 2.4 mm M stainless steel connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. High frequency design.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 50 GHz

Power Rating: 0.5 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 10% W at 125°C. 500 W peak power (5 µsec pulse width, 0.05% duty cycle.)

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connector. Gold plated beryllium copper contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Options: Chain
Female 2.4 mm
1 and 2 Watt Designs Available

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1405
DC - 50.0	1.45

Dimensions:

Length: 13.2 (.52)
Weight: 3.5 (.12)

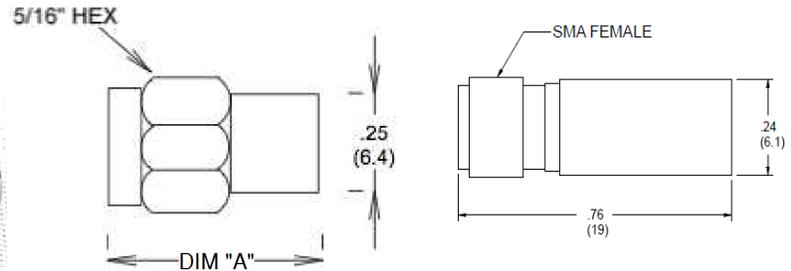
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1406 & WA1408

WA1406*: DC – 12.4 GHz
WA1408: DC – 18.0 GHz

2 WATTS



Features

Type SMA stainless steel connector per MIL-STD -348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Compact, rugged design.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1406: DC - 12.4 GHz.
 WA1408: DC - 18.0 GHz.

Power Rating: **2 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 10% W at 125°C. **500 W** peak power (5 µsec pulse width, 0.20% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connector. Gold plated beryllium copper contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA1406	WA1408
DC - 4.0	1.15	1.15
4.0 - 8.0	1.2	1.2
8.0 - 12.4	1.25	1.25
12.4 - 18.0	N/A	1.25

Dimensions:

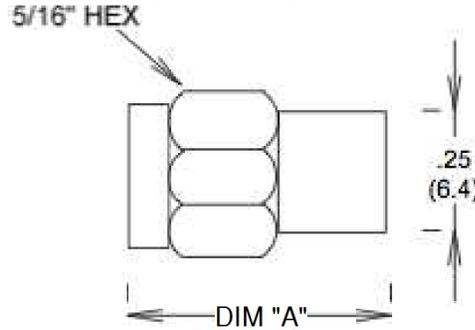
Dimension	Connector Type	
	SMA (F), -1	SMA (M) -2
Length (Dim A)	19.3 (.76)	13.7 (0.52)
Weight (nominal)	1.9 (.067)	2.9 (0.1)

***WA1406 previously named WA1406A**

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 26.5 GHz

2 WATT



Features

Type SMA stainless steel connector per MIL-STD -348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Compact, rugged design.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 26.5 GHz

Power Rating: 2 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 10% W at 125°C. 500 W peak power (5 µsec pulse width, 0.20% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1405
DC - 26.5	1.25

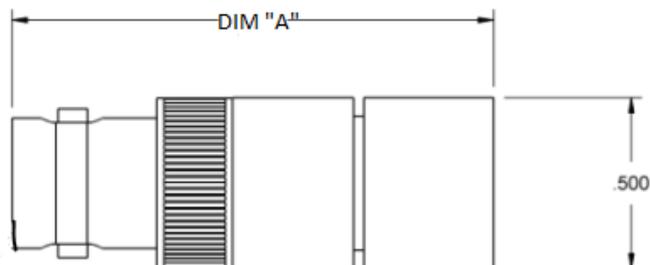
Dimensions:

Dimension	Connector Type	
	SMA (F), -1	SMA (M) -2
Length (Dim A)	12.4 (.49)	13.7 (0.52)
Weight (nominal)	1.9 (.067)	2.9 (0.1)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 6.0 GHz

2 WATT



Features

Type BNC stainless steel connector per MIL-STD -348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 6.0 GHz

Power Rating: 2 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.10% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body, nickel plated brass connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Option: Chain.

Maximum VSWR:

Frequency (GHz)	VSWR WA1418
DC - 4.0	1.25
4.0 - 6.0	1.3

Dimensions:

Dimension	Connector Type	
	BNC (F), -19	BNC (M) -20
Length (Dim A)	28.8 (1.33)	28.8 (1.33)
Weight (nominal)	24.9 (0.88)	25.2 (0.89)

Diameter: 12.7 (0.5)

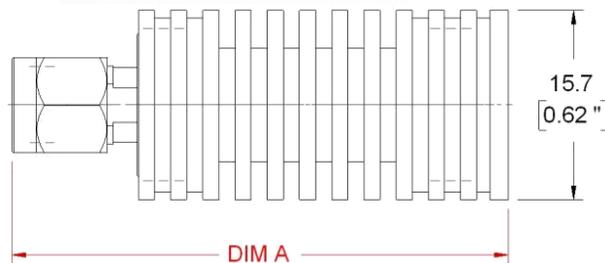
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1419

WA1419/6: DC – 6.0 GHz
WA1419/12: DC – 12.4 GHz
WA1419: DC – 18.0 GHz

10 WATTS



Features

Type SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1419: DC - 18.0 GHz.
WA1419/6: DC - 6.0 GHz.
WA1419/12: DC - 12.4 GHz.

Power Rating: 10 W maximum rated average power at 25°C, de-rated linearly to 0.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Option: Chain.

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA1419	WA1419/6	WA1419/12
DC - 8.0	1.2	1.2	1.2
8.0 - 12.4	1.3	N/A	1.3
12.4 - 18.0	1.35	N/A	N/A

Dimensions and Weight (both models):

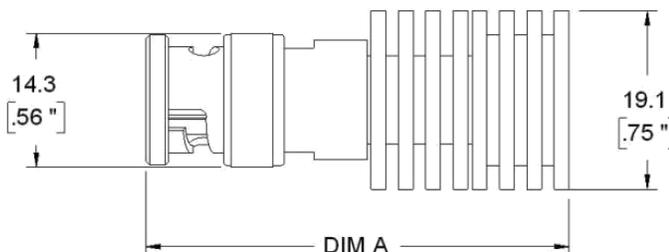
Dimension	Connector Type	
	SMA (F), -1	SMA (M) -20
Length (Dim A)	39.4 (1.55)	41.4 (1.63)
Weight (nominal)	9.9 (0.35)	9.9 (0.35)

Diameter: 15.7 (0.62)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 6.0 GHz

10 WATT



Features

Type BNC stainless steel connector per MIL-STD -348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 6.0 GHz

Power Rating: 10 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 KW peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy and passivated stainless steel body, nickel plated brass connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR WA1420
DC - 4.0	1.25
4.0 - 6.0	1.3

Dimensions and Weight:

Dimension	Connector Type	
	BNC (F), -19	BNC (M) -20
Length (Dim A)	40.6 (1.6)	41.4 (1.63)
Weight (nominal)	.01 (.35)	.01 (.35)

Diameter: 19.1 (0.75)

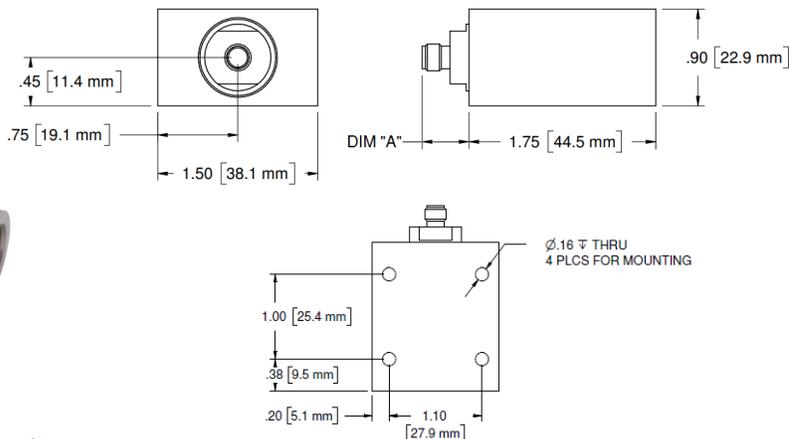
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1421

WA1421/4: DC – 4.0 GHz
WA1421: DC – 8.5 GHz

25 WATTS



Features

SMA, N-type or TNC stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1421: DC - 8.5 GHz.
 WA1421/4: DC - 4.0 GHz.

Power Rating: **25 W** maximum rated average power with case temperature held to +100°C using conductive heat sink. **5 kW** peak power (5 usec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +100°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA1421	WA1421/4
DC - 4.0	1.2	1.2
4.0 - 8.5	1.3	N/A

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

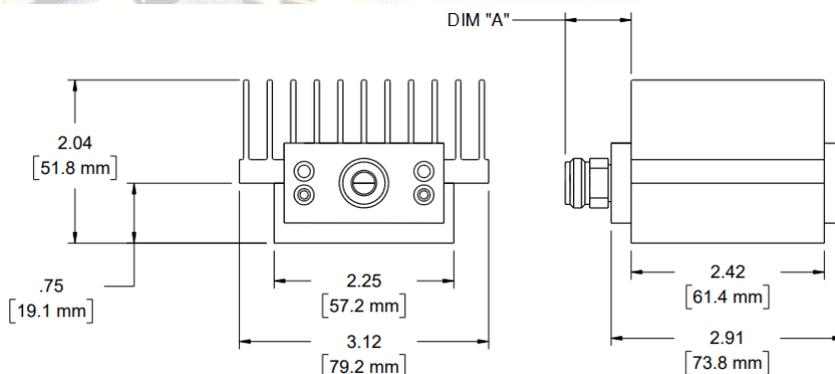
Weight: 0.17 (6.0)
Height: 22.90 (0.9)
Width: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

DC – 4.0 GHz

75 WATTS



Features

Type N, DIN 7/16, TNC or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Maximum VSWR:

Frequency (GHz)	VSWR WA1422
DC - 4.0	1.2

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Power Rating: 75 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. 5 kW peak power (5 µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: .55 (19.2)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

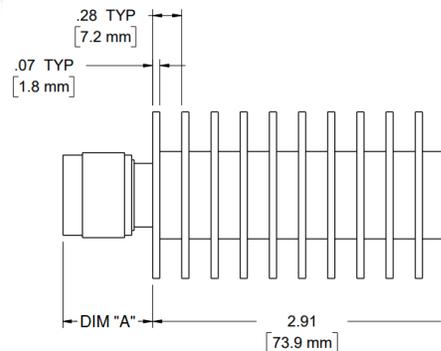
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

Termination

WA1423

DC – 4.0 GHz

50 WATTS



Features

Type N, DIN 7/16, TNC, or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Power Rating: **50 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. **5 kW** peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR WA1423
DC - 4.0	1.2

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

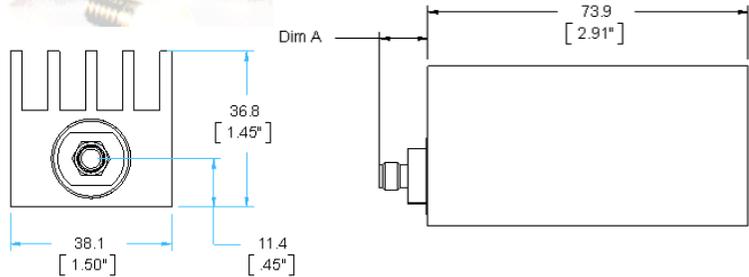
Weight: .28 (9.88)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

DC – 4.0 GHz

50 WATTS



Features

Type N, TNC, or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

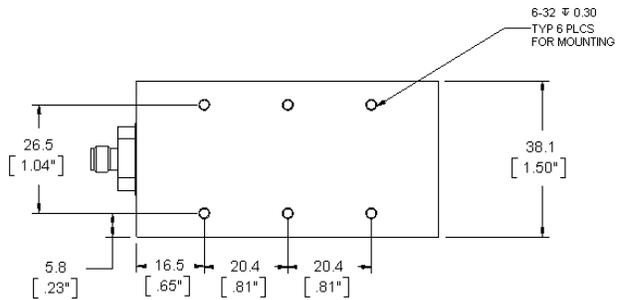
Frequency Range: DC - 4.0 GHz.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 5 kW peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.



Maximum VSWR:

Frequency (GHz)	VSWR
	WA1423B
DC - 4.0	1.2

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.28 (9.88)
Height: 37.08 (1.46)
Width: 38.1 (1.5)
Mounting: 6x 6-32, 0.3"

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

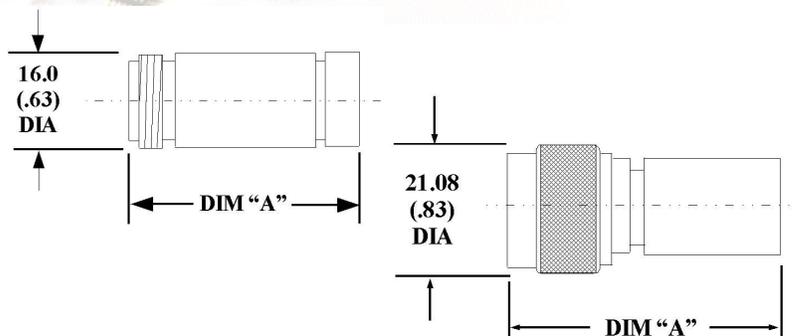
Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

Termination

WA1424

WA1424/6: DC – 6.0 GHz
 WA1424/12: DC – 12.4 GHz
 WA1424: DC – 18.0 GHz

5 WATTS



Maximum VSWR

Frequency (GHz)	VSWR		
	WA1424	WA1424/6	WA1424/12
DC - 2.0	1.05	1.05	1.05
2.0 - 4.0	1.07	1.07	1.07
4.0 - 8.0	1.15	1.15	1.15
8.0 - 12.4	1.3	N/A	1.3
12.4 - 18.0	1.35	N/A	N/A

Features

N-type or TNC stainless steel M/F connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1424: DC - 18.0 GHz
 WA1424/6: DC - 6.0 GHz
 WA1424/12: DC - 12.4 GHz

Power Rating: 5 W maximum rated average power at 25°C, de-rated linearly to 0 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Dimensions:

Dimension	Connector Type			
	N-Type (F) -03	N-Type (M) -04	TNC (F) -05	TNC (M) -06
Length (Dim A)	40 (1.57)	45 (1.77)	45 (1.77)	48 (1.89)
Weight (nominal)	.06 (2.12)	.06 (2.12)	.062 (2.2)	.062 (2.2)

Body diameter: 16.0 (0.63)

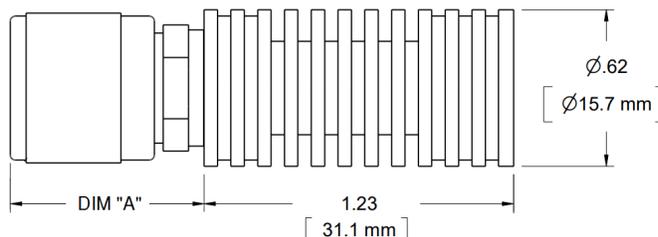
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1425

WA1425/6: DC – 6.0 GHz
 WA1425/12: DC – 12.4 GHz
 WA1425: DC – 18.0 GHz

10 WATTS



Features

Type N or TNC stainless steel M/F connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1424: DC - 18.0 GHz
 WA1424/6: DC - 6.0 GHz
 WA1424/12: DC - 12.4 GHz

Power Rating: 10 W maximum rated average power at 25°C, de-rated linearly to 0.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR

Frequency (GHz)	VSWR		
	WA1425	WA1425/6	WA1425/12
DC - 2.0	1.05	1.05	1.05
2.0 - 4.0	1.07	1.07	1.07
4.0 - 8.0	1.15	1.15	1.15
8.0 - 12.4	1.3	N/A	1.3
12.4 - 18.0	1.35	N/A	N/A

Dimensions:

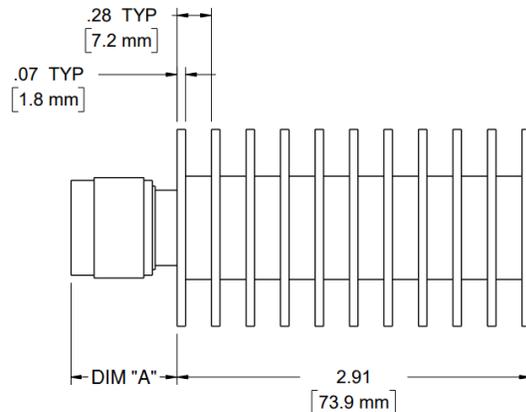
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.11 (3.88)
Body Diameter: 16.0 (0.63)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 8.5 GHz

50 WATTS



Features

Type N, TNC, or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 5 kW peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1426
DC - 4.0	1.2
4.0 - 8.5	1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

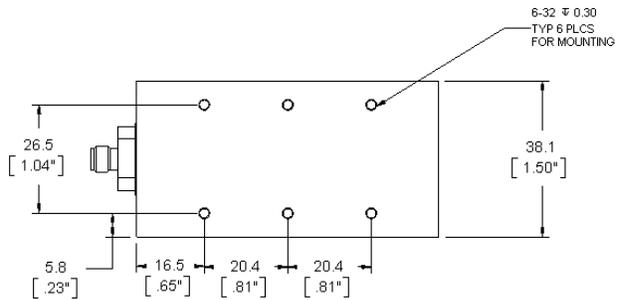
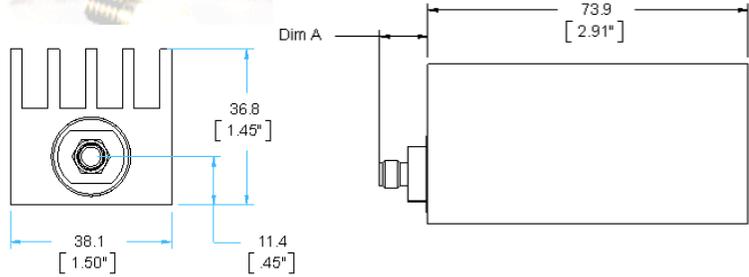
Weight: .28 (9.88)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

DC – 8.5 GHz

50 WATTS



Features

Type N, TNC, or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 5 kW peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1426B
DC - 4.0	1.2
4.0 - 8.5	1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

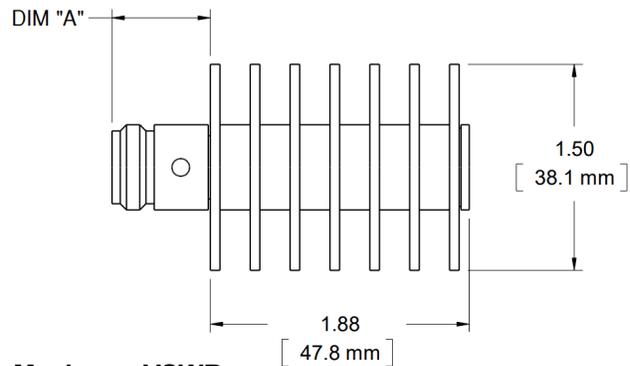
Weight: 0.28 (9.88)
Height: 37.08 (1.46)
Width: 38.1 (1.5)
Mounting: 6x 6-32, 0.3

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

DC – 10.0 GHz

25 WATTS



Maximum VSWR:

Frequency (GHz)	VSWR	VSWR
	WA1427	WA1427-5 or -6
DC - 4.0	1.1	1.15
4.0 - 8.0	1.15	1.25
8.0 - 10.0	1.25	1.3

Dimensions:
Weight: .28 (9.88)
Diameter: 38.1 (1.5)

Features

Type N, TNC, or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 10.0 GHz.

Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

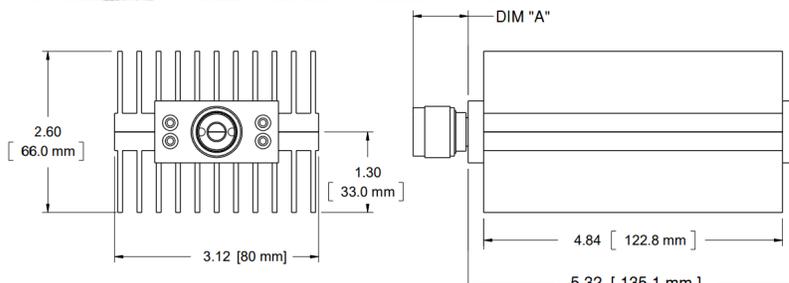
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

DC – 3.0 GHz

150 WATTS



Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Power Rating: 150 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. 10 kW peak power (5 µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1428
DC - 1.5	1.1
1.5 - 2.5	1.2

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

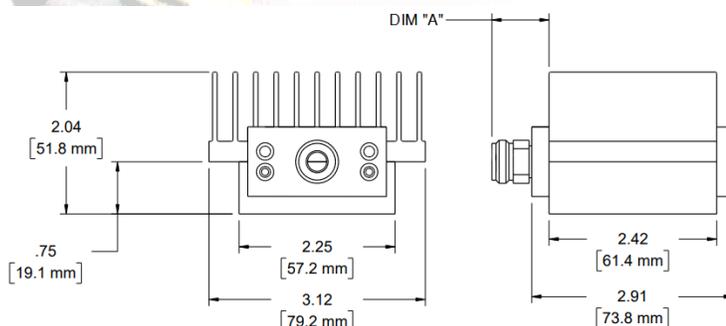
Weight: 1.13 (39.9)
Height: 66 (2.6)
Width: 80 (3.12)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

DC - 8.5 GHz

75 WATTS



Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: 75 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C. 5 kW peak power (5 μsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Maximum VSWR:

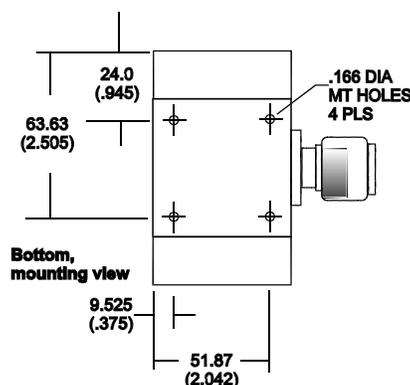
Frequency (GHz)	VSWR
	WA1429
DC - 4.0	1.2
4.0 - 8.5	1.3

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.5 (17.6)
Height: 51.8 1(2.04)
Width: 79.2 (3.12)
Mounting: 4x.166 diameter holes

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

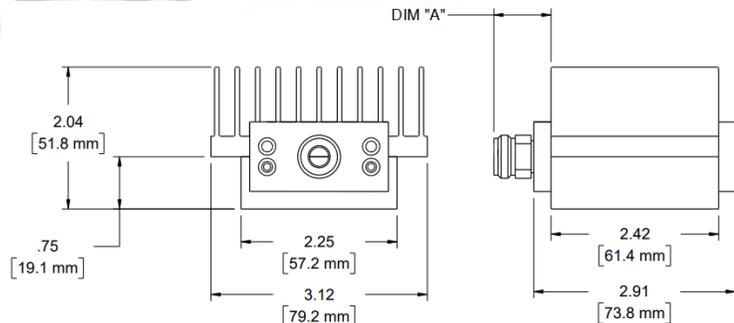


Termination

WA1430

DC - 4.0 GHz

100 WATTS



Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Power Rating: 100 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 10 W at 125°C. 5 kW peak power (5 µsec pulse width, 1.0% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Maximum VSWR:

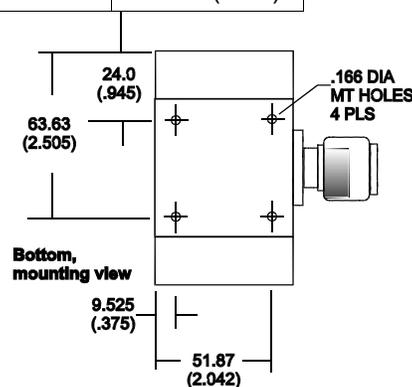
Frequency (GHz)	VSWR
	WA1430
DC - 4.0	1.2

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.5 (17.6)
Height: 51.8 (2.04)
Width: 79.2 (3.12)
Mounting: 4x.166 diameter holes

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

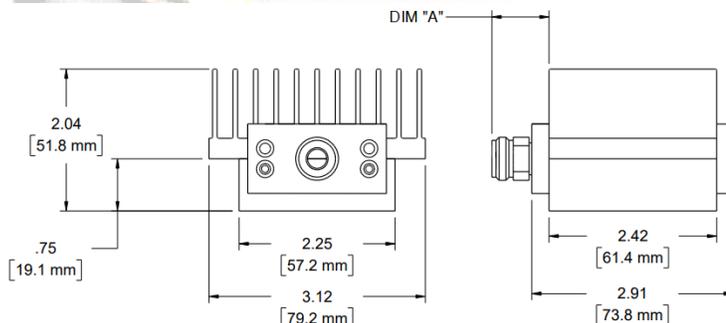


Termination

WA1431

DC - 8.5 GHz

100 WATTS



Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: 100 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 10 W at 125°C. 5 kW peak power (5 μsec pulse width, 1.0% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Maximum VSWR:

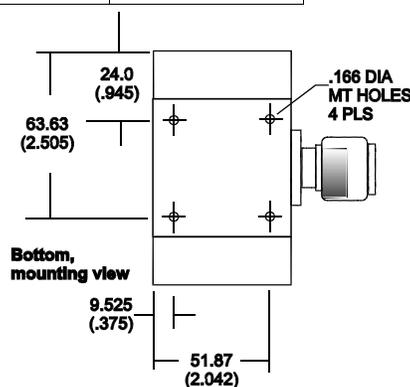
Frequency (GHz)	VSWR WA1431
DC - 4.0	1.2
4.0 - 8.5	1.3

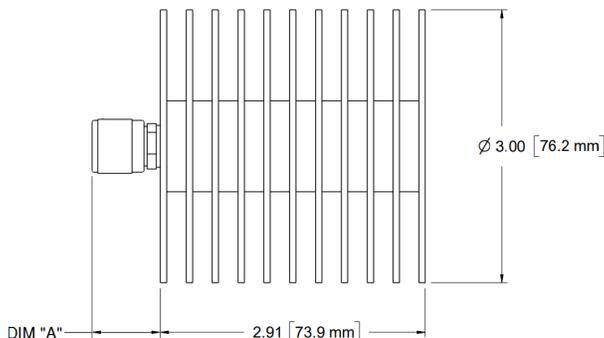
Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.5 (17.6)
Height: 51.8 (2.04)
Width: 79.2 (3.12)
Mounting: 4x.166 diameter holes

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.





Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Power Rating: 100 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C. 5 kW peak power (5 µsec pulse width, 1.0% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation attribute.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1432
DC - 4.0	1.25

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.37 (13.1)
Diameter: 76.2 (3.0)

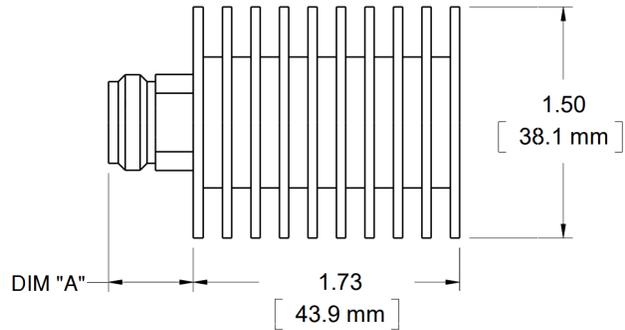
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1433 & WA1434

WA1434: DC - 4.0 GHz
 WA1433: DC - 8.5 GHz

25 WATTS



Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1433, WA1434
DC - 4.0	1.2
4.0 - 8.5	1.3

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1434: DC - 4.0 GHz.
 WA1433: DC - 8.5 GHz.

Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 1.5 W at 125°C. 5 kW peak power (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: .28 (9.88)
Diameter: 38.1 (1.5)

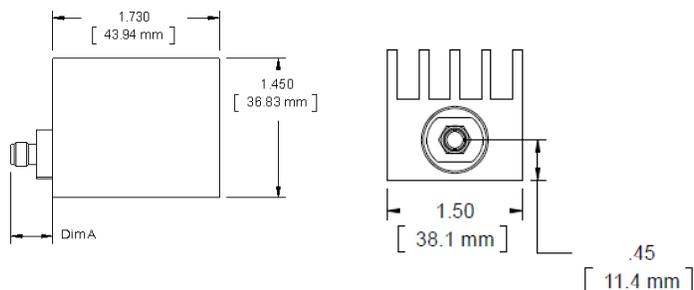
Note: Dimensions are given in mm (in), ork g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1433B & WA1434B

WA1434B: DC - 4.0 GHz
WA1433B: DC - 8.5 GHz

25 WATTS



Features

Type N, TNC, or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1434: DC - 4.0 GHz.
 WA1433: DC - 8.5 GHz.

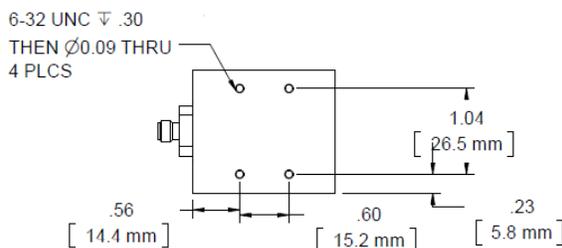
Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 1.5 W at 125°C. 5 kW peak power (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.



Maximum VSWR:

Frequency (GHz)	VSWR
	WA1433B, WA1434B
DC - 4.0	1.2
4.0 - 8.5	1.3

Dimensions:

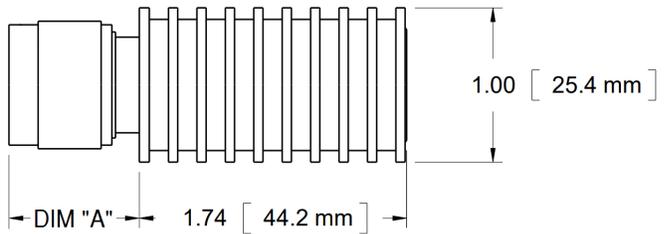
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.17 (6.06)
Height: 36.8 (1.45)
Width: 38.1 (1.5)
Mounting: 4x 6-32 UNC, 0.09 Thru

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 4.0 GHz

20 WATTS



Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Power Rating: 20 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 1.5 W at 125°C. 5 kW peak power (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1434L
DC - 4.0	1.2

Dimensions:

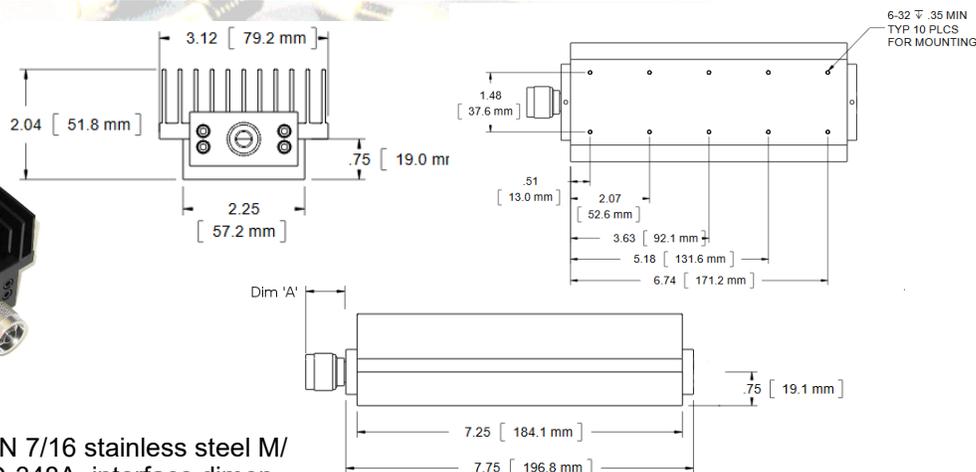
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: .28 (9.88)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 8.5 GHz

250 WATTS



Features

Type N, TNC, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: 250 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. 5 kW peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

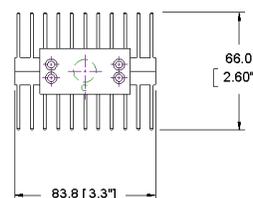
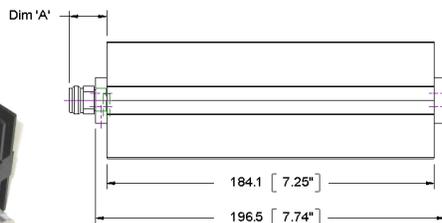
Frequency (GHz)	VSWR
	WA1435
DC - 4.0	1.3
4.0 - 8.5	1.45

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.5 (17.6)
Height: 51.8 (2.04)
Width: 79.2 (3.12)
Mounting: 6-32 .35"

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: **300 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. **5 kW** peak power (5 usec pulse width, 3.0% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add *-LIM* after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1436
DC - 4.0	1.3
4.0 - 8.5	1.45

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.28 (45.2)
Height: 66 (0.6)
Width: 83.8 (3.3)

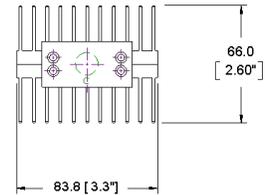
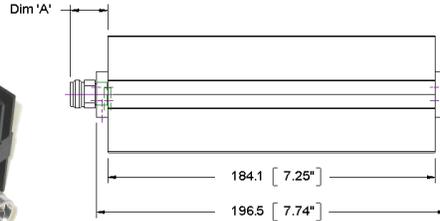
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1438

DC - 5.0 GHz

300 WATTS



Features

Type N, or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz.

Power Rating: **300 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 25 W at 125°C. **10 kW** peak power (5 usec pulse width, 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1438
DC - 2.0	1.15
2.0 - 5.0	1.25

Dimensions:

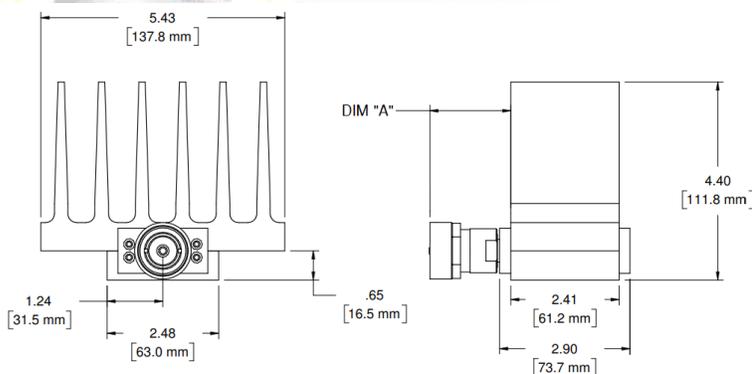
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.28 (45.2)
Height: 66 (2.6)
Width: 83.8 (3.3)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 3.0 GHz

150 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Power Rating: 150 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 125°C. 10 kW peak power (5 µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: Insertion VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1439
DC - 3.0	1.2

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.0 (35.3)
Height: 111.8 (4.4)
Width: 137.8 (5.43)

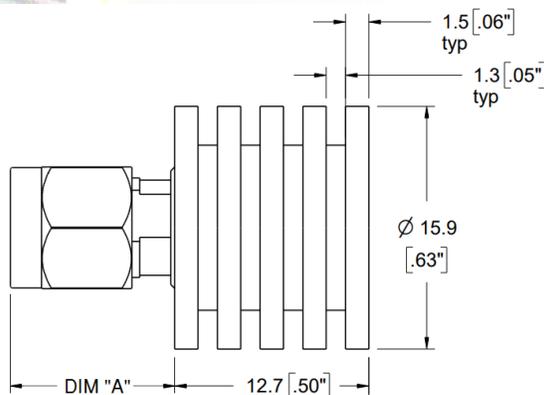
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1443

WA1443: DC - 18.0 GHz
WA1443/6: DC - 6.0 GHz
WA1443/12: DC - 12.4 GHz

5 WATTS



Features

Type SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position. *Compact design provides one of the lowest power/size ratios available.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1443/6: DC - 6.0 GHz.
WA1443/12: DC - 12.4 GHz.
WA1443: DC - 18.0 GHz.

Power Rating: 5 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	All variants
DC - 18.0	1.2

Dimensions:

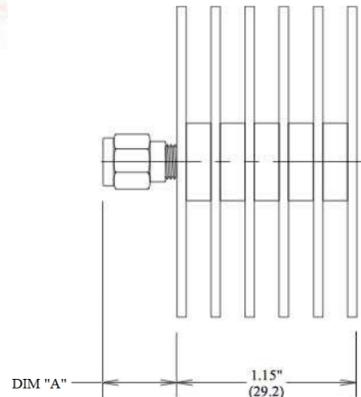
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	7.7 (.30)
SMA M -02	10.4 (.41)

Weight: 6.8 (.24)
Diameter: 15.9 (.63)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 26.5 GHz

25 WATTS



Features

Precision 3.5 mm or 2.92 mm stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position. *Compact design provides one of the lowest power/size ratios available.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz.

Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 0.5 kW peak power (5 usec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1444
DC - 26.5	1.25

Dimensions:

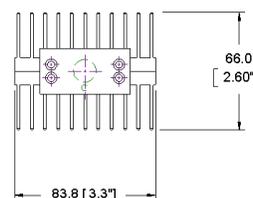
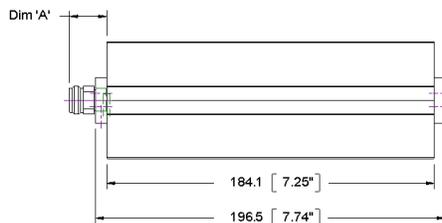
Connector Type (- code)	Length
	Dimension 'A'
3.5mm F -11	10.7 (.42)
3.5mm M -12	11.6 (.46)
2.92mm F -13	10.6 (.42)
2.92mm M -14	11.5 (.45)

Weight: 0.1 (3.53)
Diameter: 50.8 (2.0)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 3.0 GHz

250 WATTS



Features

Type N, TNC or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Power Rating: **250 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. **10 kW** peak power (5 µsec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1445
DC - 3.0	1.1

Dimensions and Weight:

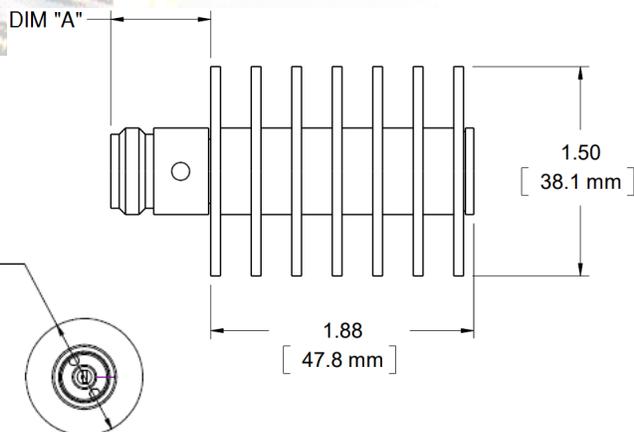
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 1.28 (45.2)
Height: 66 (2.6)
Width: 83.8 (3.3)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 18.0 GHz

25 WATTS



Features

N-type or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2.5 W at 125°C. 1 kW peak power (5 usec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1446
DC - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Dimensions:

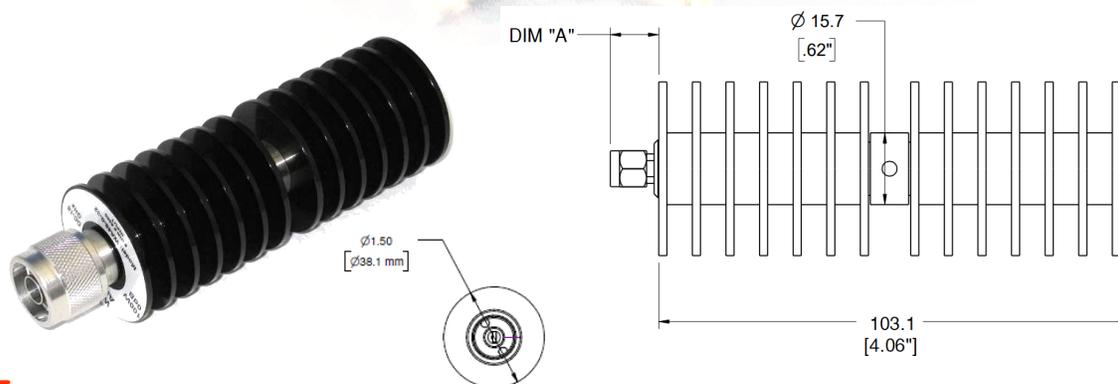
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)

Weight: 0.12 (4.23)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 18.0 GHz

50 WATTS



Features

N-type or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C. 1 kW peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

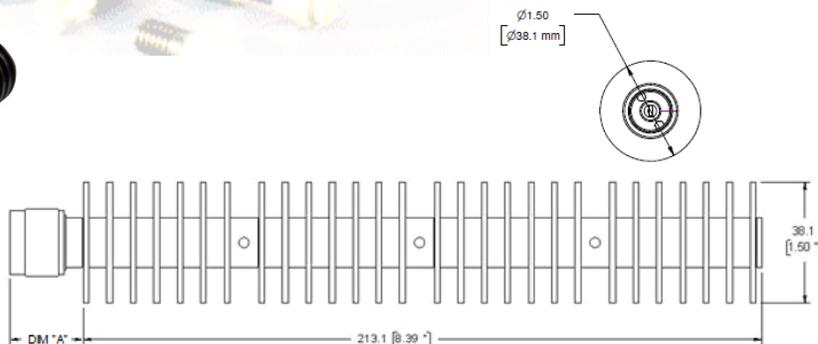
Frequency (GHz)	VSWR
	WA1447
DC - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)

Weight: 0.21 (7.41)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Features

N-type or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 100 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 10 W at 125°C. 1 kW peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1448
DC - 8.0	1.25
8.0 - 12.4	1.35
12.4 - 18.0	1.45

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)

Weight: 0.41 (14.46)
Diameter: 38.1 (1.5)

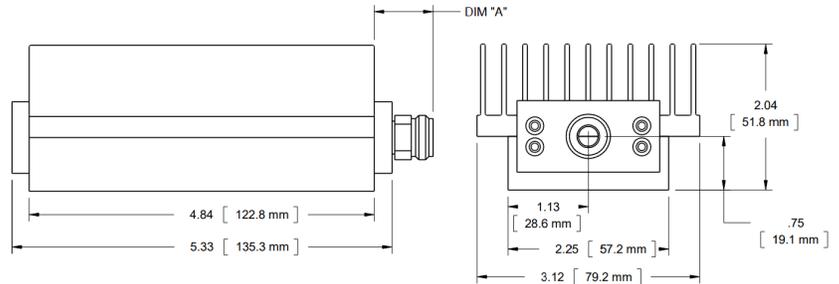
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1449

DC - 8.5 GHz

150 WATTS



Features

Type N, SMA or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: 150 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. 5 kW peak power (5 µsec pulse width, 1.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1449
DC - 4.0	1.25
4.0 - 8.5	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 1.28 (45.2)
Height: 51.8 (2.04)
Width: 79.2 (3.12)

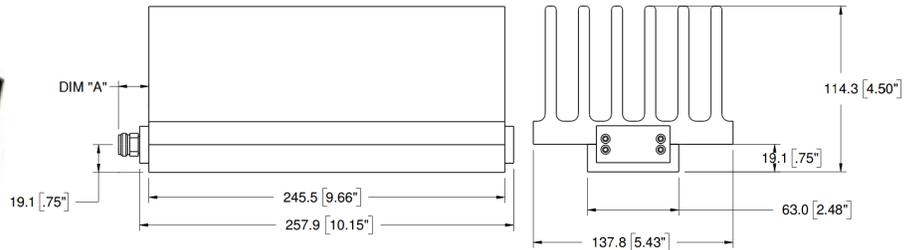
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1451

DC - 8.5 GHz

500 WATTS



Features

Type N or 7/16 DIN stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Useable to 10 GHz.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 8.5 GHz.

Power Rating: 500 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 30 W at 125°C. 5 kW peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1451
DC - 4.0	1.25
4.0 - 8.5	1.45

Dimensions:

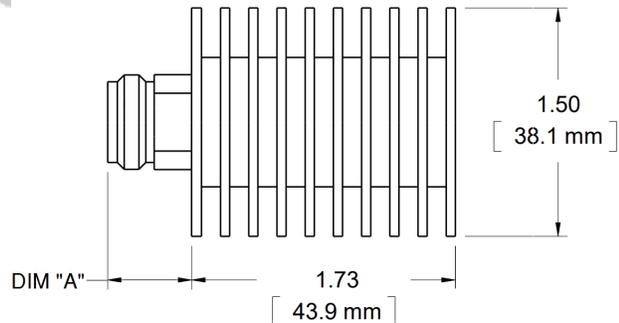
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 3.7 (130.5)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 4.0 GHz

25 WATTS



Features

Type N, DIN 7/16, TNC or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz.

Power Rating: 25 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 1.5 W at 125°C. 5 kW peak power (5 usec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1452
DC - 2.0	1.1
2.0 - 4.0	1.2

Dimensions:

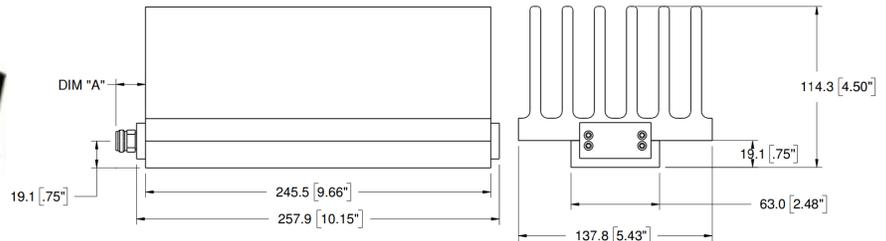
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: .28 (9.88)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 3.0 GHz

500 WATTS



Maximum VSWR:

Frequency (GHz)	VSWR
	WA1453
DC - 3.0	1.1

Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Power Rating: **500 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 30 W at 125°C. **10 kW** peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add *-LIM* after connector option to specify low intermodulation.

Dimensions:

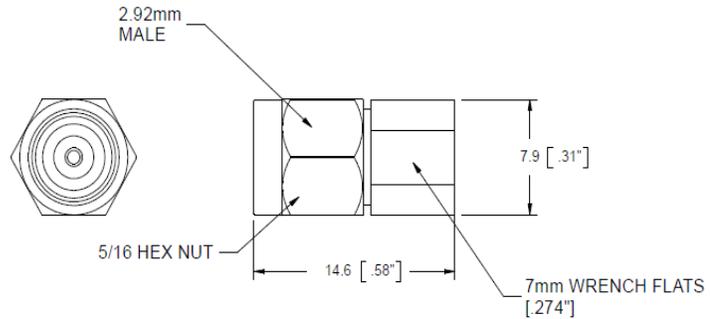
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 3.7 (130.5)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 40.0 GHz

2 WATTS



Features

Precision 2.92 mm stainless steel connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-39030 environmental specification. Compact, rugged design.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1454: DC - 40.0 GHz.

Power Rating: **2 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. **500 W** peak power (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connector. Gold plated beryllium copper contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Option: Chain.
Female 2.92 mm

Frequency (GHz)	VSWR WA1454
DC - 26.5	1.20
26.5 - 40.0	1.30

Maximum VSWR:

Dimensions:

Length: 14.5 (.57)
Weight: 3.83 (.135)

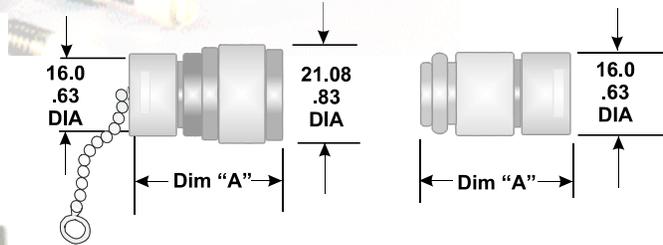
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1455 & WA1455C

WA1455/6: DC – 6.0 GHz
 WA1455/12: DC – 12.4 GHz
 WA1455: DC – 18.0 GHz

2 WATTS



Maximum VSWR:

Frequency (GHz)	VSWR (N-Type)		
	WA1455	WA1455/6	WA1455/12
DC - 8.0	1.1	1.1	1.1
8.0 - 12.4	1.15	N/A	1.15
12.4 - 18.0	1.2	N/A	N/A

Frequency (GHz)	VSWR (TNC)		
	WA1455	WA1455/6	WA1455/12
DC - 8.0	1.15	1.15	1.15
8.0 - 12.4	1.2	N/A	1.2
12.4 - 18.0	1.3	N/A	N/A

Features

Type N or TNC M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Excellent VSWR repeatability.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1455/6: DC - 6.0 GHz.
 WA1455/12: DC - 12.4 GHz.
 WA1455: DC - 18.0 GHz.

Power Rating: 2 W maximum rated average power at 25°C, de-rated linearly to 0.5 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.1% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Ternary Plated Brass Bodies and Coupling Nuts (Passivated stainless steel available as an option). Stainless steel or gold-plated beryllium copper contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Option: Chain. (C represents chain option)

Dimensions:

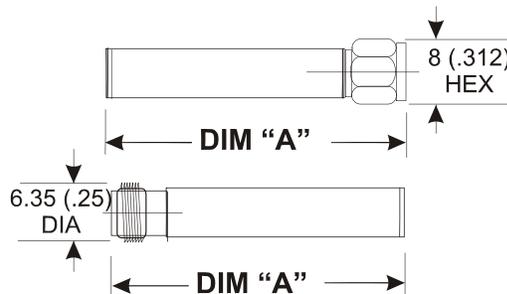
Dimension	N-Type	
	N-Type F -03	N-Type M -04
Length (Dim A)	28.8 (1.13)	30 (1.18)
Weight (nominal)	40.5 (1.43)	36.4 (1.29)

Dimension	TNC	
	TNC F -05	TNC M -06
Length (Dim A)	26.2 (1.03)	29 (1.14)
Weight (nominal)	15.2 (0.54)	22.3 (0.79)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 32.0 GHz

2 WATTS



Features

3.5 mm stainless steel connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Compact, rugged design.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC to 32.0 GHz

Power Rating: 2 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 85°C. 200 W peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Passivated stainless steel body and connector. Gold plated beryllium copper contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Option: Chain.

Maximum VSWR:

Frequency (GHz)	VSWR WA1456
DC - 26.5	1.25
26.5 - 32.0	1.4

Dimensions:

Dimension	Connector Type	
	3.5 mm (F), -11	3.5 mm (M) -12
Length (Dim A)	15 (0.59)	15 (0.59)
Weight (nominal)	.0049 (0.14)	.0049 (0.14)

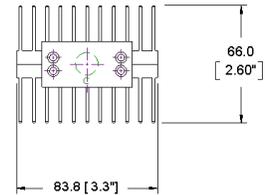
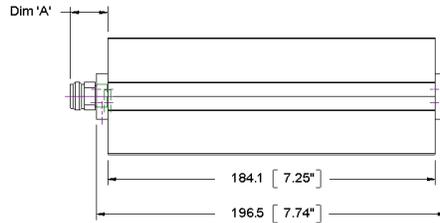
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1457

DC - 5.0 GHz

150 WATTS



Features

SMA, Type N, DIN 7/16, or TNC stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz.

Power Rating: 150 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. 10 kW peak power (5 µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

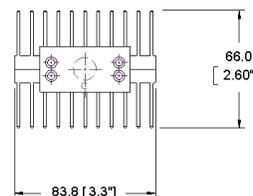
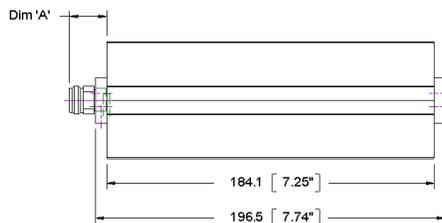
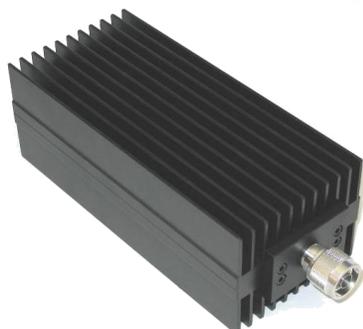
Frequency (GHz)	VSWR WA1457
DC - 2.0	1.1
2.0 - 5.0	1.15

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.75 (26.5)
Height: 66.0 (2.6)
Width: 83.8 (3.3)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Features

Type N, DIN 7/16, or TNC stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz.

Power Rating: 250 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 25 W at 125°C. 10 kW peak power (5 µsec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1458
DC - 2.0	1.1
2.0 - 6.0	1.15

Dimensions:

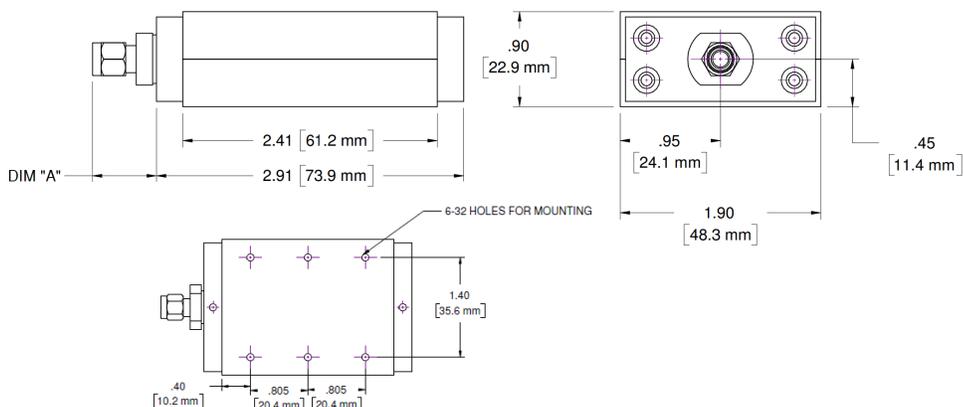
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.39)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)
7/16 DIN F -07	30.5 (1.2)
7/16 DIN M -08	31.8 (1.25)

Weight: 0.75 (26.5)
Height: 66 (2.6)
Width: 83.8 (3.3)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 3.0 GHz

100 WATTS



Features

Type N, TNC or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1459
DC - 3.0	1.2

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Power Rating: 100 W maximum average rated power with case temperature held to a maximum of 100°C. 10 kW peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +100°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.14 (4.9)
Height: 22.9 (0.9)
Width: 48.3 (1.9)

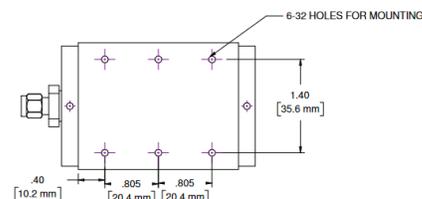
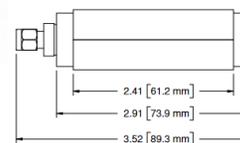
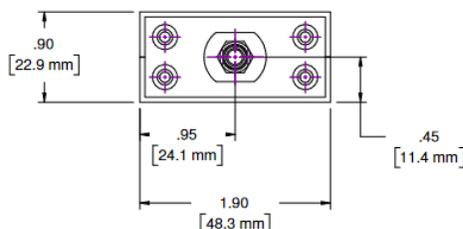
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1459/6

DC - 6.0 GHz

100 WATTS



Features

Type N, TNC or SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Frequency (GHz)	VSWR
	WA1459
DC - 6.0	1.2

Maximum VSWR:

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz

Power Rating: 100 W maximum average rated power with case temperature held to a maximum of 100°C. 10 kW peak power (5 μsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +100°C.

Construction: Available in clear or gold iridite aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Dimensions:

Weight: 0.14 (4.9)
Height: 22.9 (0.9)
Width: 48.3 (1.9)

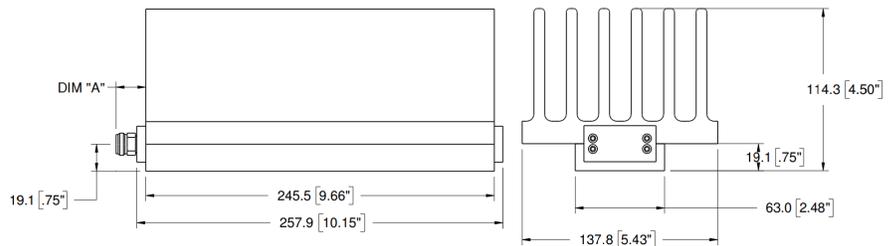
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1460

DC - 5.0 GHz

500 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 5.0 GHz.

Power Rating: **500 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 30 W at 125°C. **10 kW** peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add *-LIM* after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1460
DC - 2.5	1.1
2.5—5.0	1.2

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 3.7 (130.5)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1465

DC - 3.0 GHz

150 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

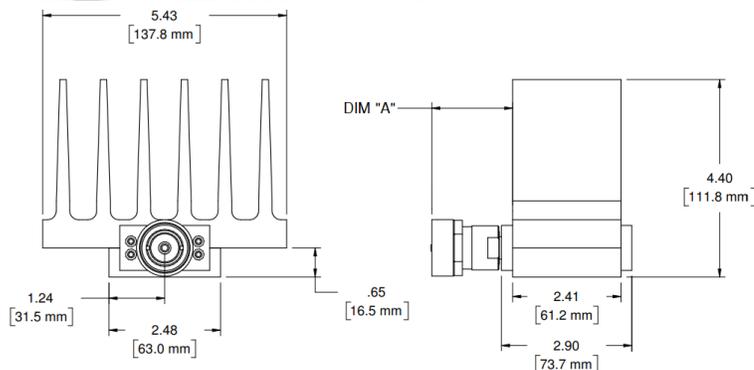
Power Rating: **150 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 125°C. **10 kW** peak power (5 µsec pulse width, 0.75% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.



Maximum VSWR:

Frequency (GHz)	VSWR
	WA1465
DC - 3.0	1.2

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 1.0 (35.3)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

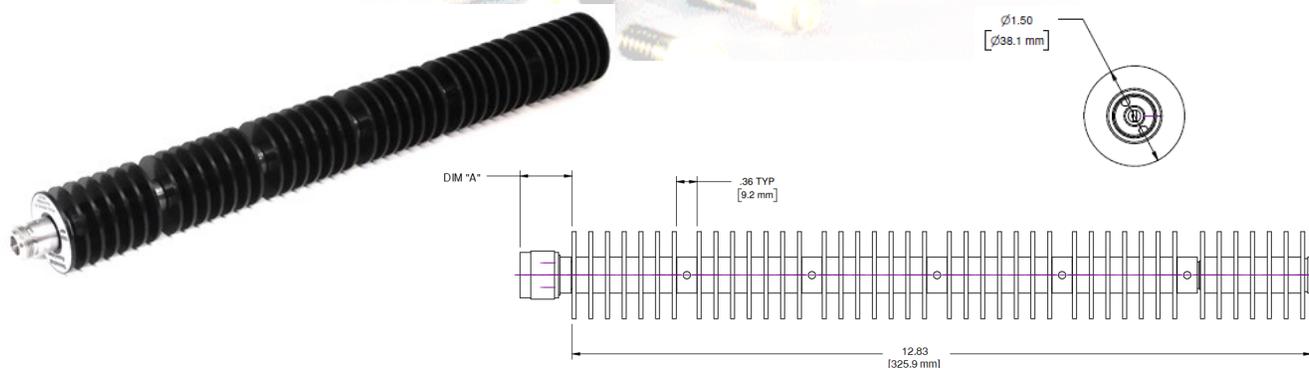
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1466

DC - 18.0 GHz

150 WATTS



Features

SMA, Type N, or TNC stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 150 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 15 W at 125°C. 1 kW peak power (5 usec pulse width, 7.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 18.0	WA1466 1.5

Dimensions:

Weight: 0.62 (21.87)

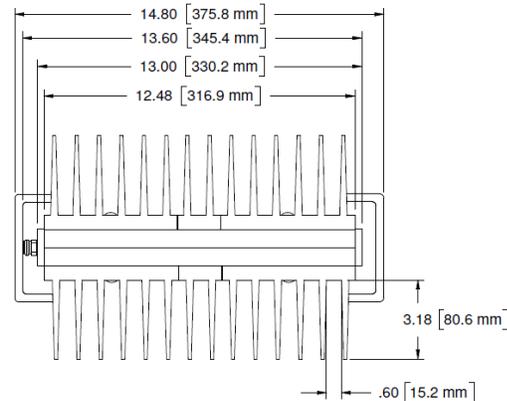
Diameter: 38.1 (1.5)

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available

DC - 3.0 GHz

1000 WATTS



Maximum VSWR:

Frequency (GHz)	VSWR
	WA1470
DC - 3.0	1.35

Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position. *Natural convection cooling.*

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Power Rating: **1000 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 100 W at 125°C. **10 kW** peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. RoHS Compliant.

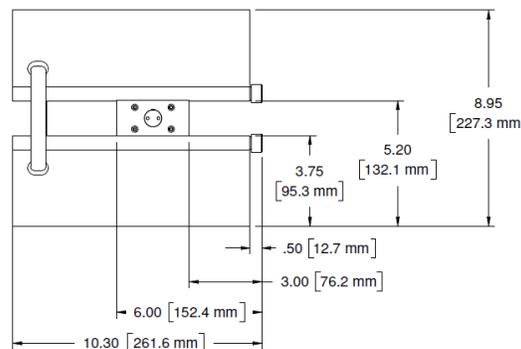
Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 18.20 (130.5)
Height: 261.6 (10.3)
Width: 227.3 (8.95)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

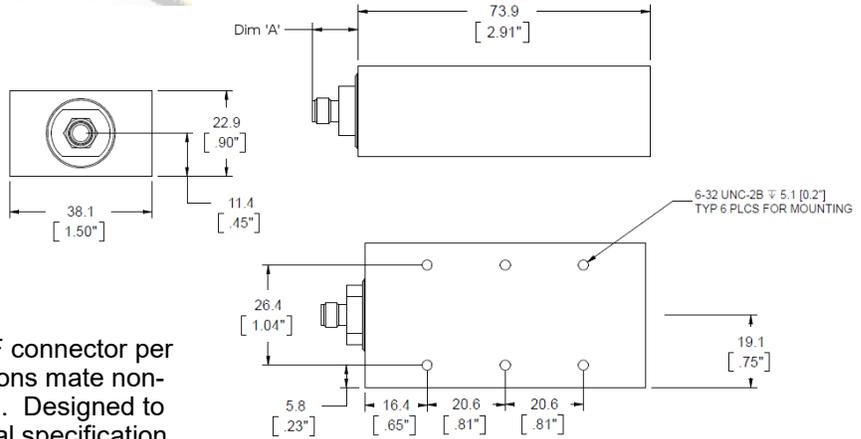


Termination

WA1471 & WA1472

WA1471: DC – 4.0 GHz
WA1472: DC – 8.5 GHz

50 WATTS



Features

N-type or SMA stainless steel M/F connector per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1471: DC - 4.0 GHz.
 WA1472: DC - 8.5 GHz.

Power Rating: 50 W maximum rated average power with case temperature held to +100°C using conductive heat sink. 5 kW peak power (5 usec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR	
	WA1471	WA1472
DC - 4.0	1.2	1.2
4.0 - 8.5	N/A	1.3

Dimensions:

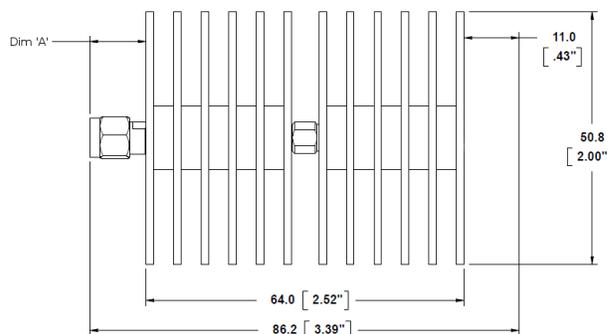
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 0.14 (4.94)
Height: 22.9 (0.9)
Width: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 28.0 GHz

50 WATTS



Features

3.5 mm stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 28.0 GHz.

Power Rating: 50 W maximum rated average power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C . 500 W peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1473
DC - 18.0	1.3
18.0 - 28.0	1.4

Dimensions:

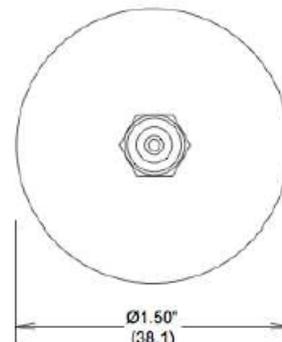
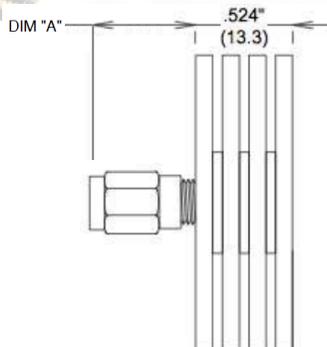
Connector Type (- code)	Length
	Dimension 'A'
3.5mm F -11	10.7 (.42)
3.5mm M -12	11.6 (.46)

Weight: 0.20 (7.05)
Diameter: 50.8 (2.0)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 40.0 GHz

5 WATTS



Features

Precision 2.92mm M/F connectors mate non-destructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Flat response.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz.

Power Rating: 5 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C (horizontal mounting). 200 W peak power (5 µsec pulse width, 1.25% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1475
DC - 26.5	1.25
26.5 - 40.0	1.45

Dimensions and Weight:

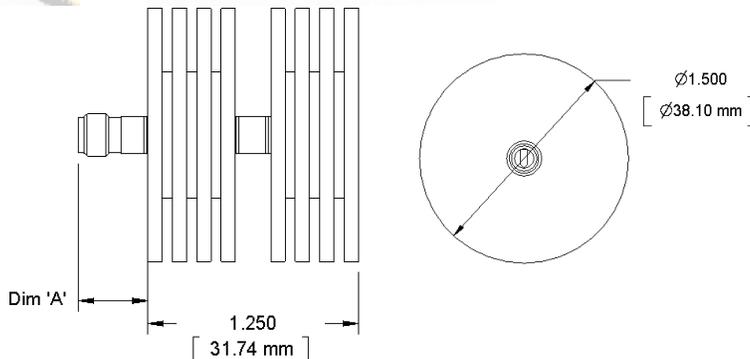
Connector Type (- code)	Dimension
	Length (Dimension A)
2.92mm F -13	10.6 (.42)
2.92mm M -14	11.5 (.45)

Weight: .035 (1.2)
Diameter: 38.1 (1.5)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 40.0 GHz

10 WATTS



Features

Precision 2.92mm M/F connectors mate non-destructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Flat response.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz.

Power Rating: 10 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 1 W at 125°C (horizontal mounting). 200 W peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1476
DC - 18.0	1.25
18.0 - 40.0	1.4

Dimensions:

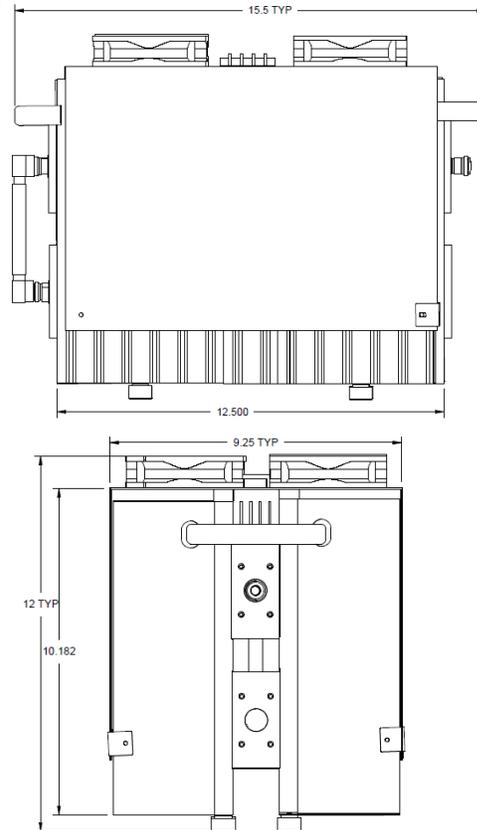
Connector Type (- code)	Dimension Length (Dimension A)
2.92mm F -13	10.6 (.42)
2.92mm M -14	11.5 (.45)

Diameter: 38.1 (1.5)
Weight: .14 (4.9)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC - 3.0 GHz

2000 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Forced Air Cooling.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3.0 GHz.

Power Rating: 2000 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 100 W at 125°C. 10 kW peak power (5 µsec pulse width, 10% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR WA1480
DC - 3.0	1.35

Dimensions:

Height:	295 (11.61)
Width:	234 (9.21)
Length:	394 (15.5)
Weight:	20.55 (724.8)

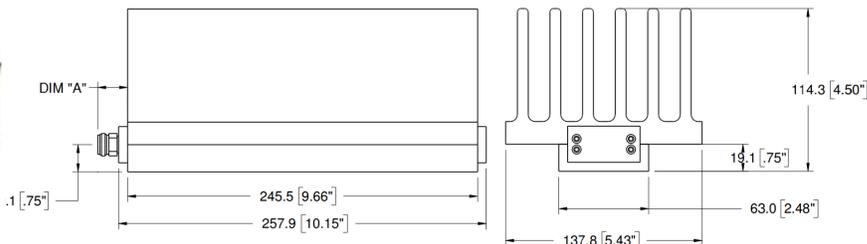
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1481

DC - 10 GHz

500 WATTS



Features

Type N or DIN 7/16 stainless steel M/F connector per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 10.0 GHz.

Power Rating: **500 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 50 W at 125°C. **5 kW** peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connector. Gold plated beryllium copper or stainless steel contact. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1481
DC - 4.0	1.25
4.0 - 8.0	1.45
8.0 - 10.0	1.7

Dimensions:

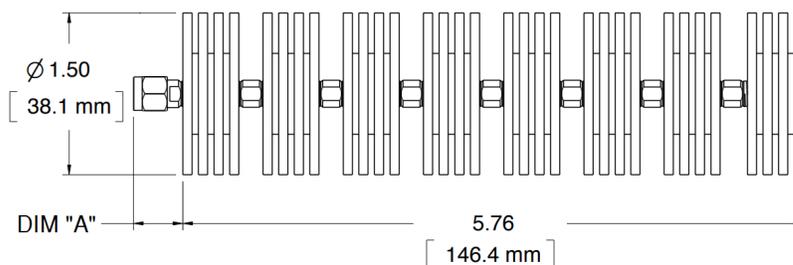
Connector Type (- code)	Length
	Dimension 'A'
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
DIN 7/16 F -07	30.5 (1.2)
DIN 7/16 M -08	31.8 (1.25)

Weight: 3.7 (130.5)
Height: 114.3 (4.5)
Width: 137.8 (5.43)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 40.0 GHz

50 WATTS



Features

Precision 2.92mm M/F connectors mate non-destructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Flat response.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0 W at 100°C. 200 W peak power (5 usec pulse width, 10% duty cycle).

Temperature Range: -55°C to +100°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1488
DC - 18.0	1.3
18.0 - 40.0	1.6

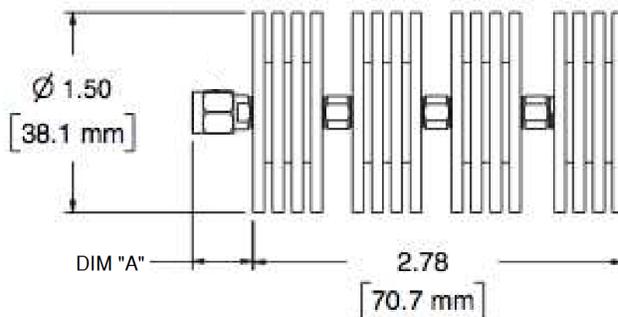
Dimensions:

Connector Type (- code)	Dimension	Diameter: 38.1 (1.5)
	Length (Dimension A)	
2.92mm F -13	10.6 (.42)	Weight: 0.29 (10.23)
2.92mm M -14	11.5 (.45)	

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 40.0 GHz

20 WATTS



Features

Precision 2.92mm M/F connectors mate non-destructively with SMA per MIL-PRF-39012, 3.5mm and other 2.92mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Flat response.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz.

Power Rating: 20 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 2 W at 125°C (horizontal mounting). 200 W peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Maximum VSWR:

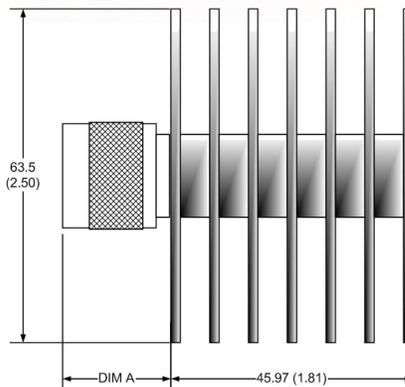
Frequency (GHz)	VSWR
	WA1489
DC - 18.0	1.25
18.0 - 40.0	1.4

Dimensions and Weight:

Connector Type (- code)	Dimension
	Length (Dimension A)
2.92mm F -13	10.6 (.42)
2.92mm M -14	11.5 (.45)

Diameter: 38.1 (1.5)
Weight: .20 (7.1)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Features

Type N, SMA, or TNC connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C. 1 kW peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1490
DC - 18.0	1.2

Dimensions:

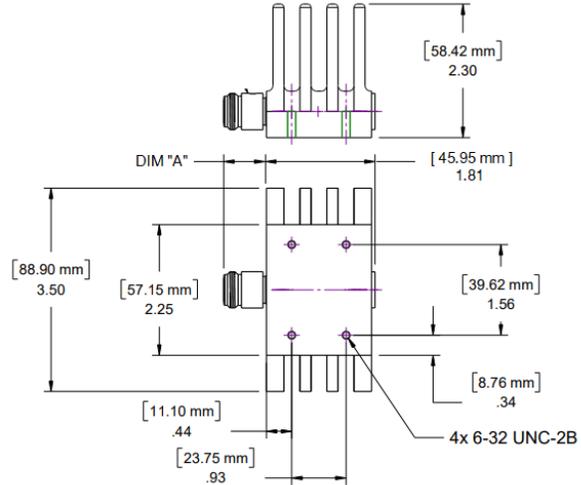
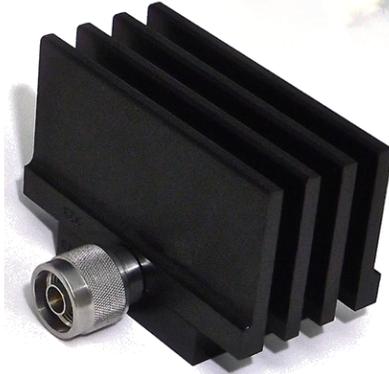
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Diameter: 63.5 (2.5)
Weight: 0.21 (7.41)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 18.0 GHz

50 WATTS



Features

Type N, SMA, or TNC connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 50 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 5 W at 125°C. 1 kW peak power (5 µsec pulse width, 2.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1490B
DC - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Dimensions:

Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Weight: 0.41 (14.5)
Height: 58.42 (2.3)
Width: 88.9 (3.5)

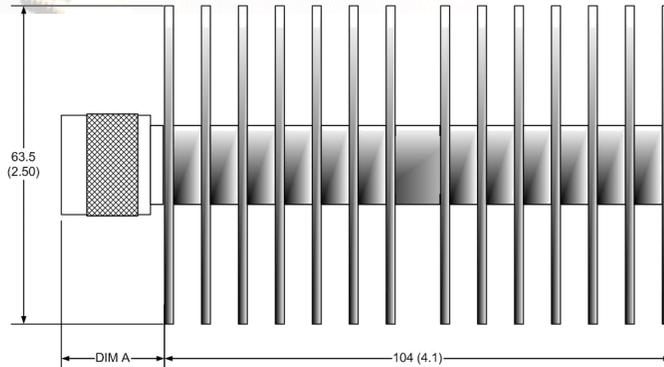
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Termination

WA1491

DC – 18.0 GHz

100 WATTS



Features

Type N, SMA, or TNC connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 100 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 10 W at 125°C. 1 kW peak power (5 µsec pulse width, 5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low intermodulation

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1491
DC - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Dimensions:

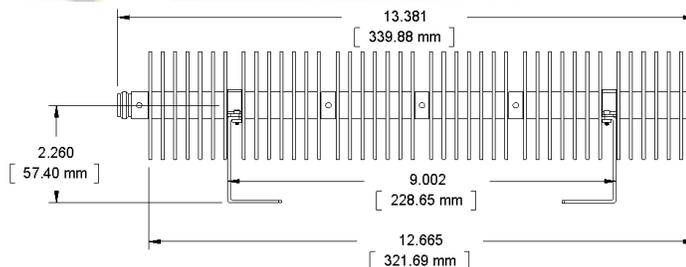
Connector Type (- code)	Length
	Dimension 'A'
SMA F -01	9.8 (.39)
SMA M -02	10.9 (.43)
N-Type F -03	14.9 (.59)
N-Type M -04	22.7 (.89)
TNC F -05	14.4 (.57)
TNC M -06	17.7 (.70)

Diameter: 63.5 (2.5)
Weight: 0.41 (14.46)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC – 18.0 GHz

200 WATTS



Features

Type N M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 200 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 20 W at 125°C. 1 kW peak power (5 µsec pulse width, 10% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Low Intermodulation Option: Add -LIM after connector option to specify low inter-modulation.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1495
DC - 18.0	1.5

Dimensions:

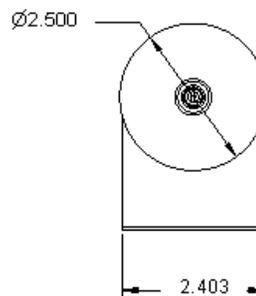
Diameter: 63.5 (2.5)

Weight: 1.02 (35.82)

Length: 339.9 (13.4)

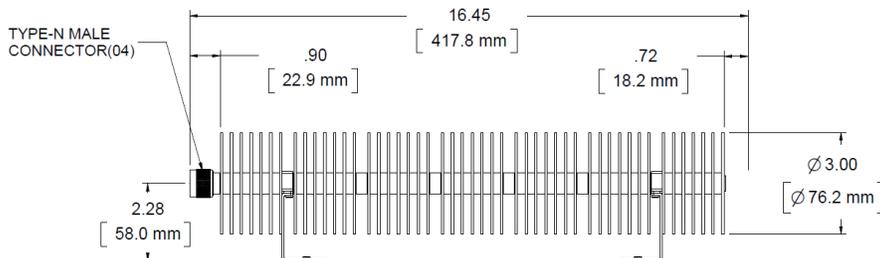
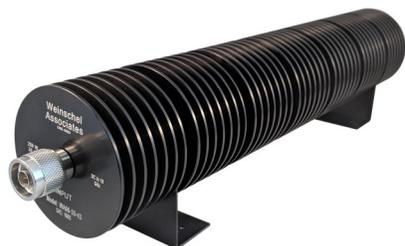
Options: Stands for mounting (shown above).

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



DC – 18.0 GHz

250 WATTS



Features

Type N or TNC M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position with included mounting stands.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1496
DC - 18.0	1.6

Specifications

Dimensions:

Height:	96.1 (3.78)
Diameter:	76.2 (3.0)
Length:	417.8 (16.45)
Weight:	1.59 (56)

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Rating: 250 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 20 W at 125°C. 1 kW peak power (5 µsec pulse width, 12.5% duty cycle).

Temperature Range: -55°C to +125°C.

Construction: Black aluminum alloy body with passivated stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

RESISTIVE POWER SPLITTERS AND DIVIDERS

DC – 40.0 GHz

1 WATTS

Resistive Power Splitters

Usage: Use in RF and wireless applications where one of the two outputs are included in a leveling loop or used as a reference in a ratio system providing an output signal whose source impedance is matched to 50 ohms.

Features: Excellent amplitude tracking, low equivalent output SWR, unidirectional

Resistive Power Splitters							
Model Number	Average Power (W)	Frequency Range DC - (GHz)	Maximum Insertion Loss (dB)	Amplitude Tracking (dB, max)	Phase Tracking (\pm deg)	Connectors	Page No.
WA1507R	1	4	6.5	0.15	4	SMA	162 163
PS-018	1	18	7.5	0.2	4	N	160
7PS-018	1	18	7.5		2	N/7mm	161
WA1593	1	26.5	8.5	0.25	4	3.5 mm	164, 165
WA1534	1	40	10.5	0.5	4	2.92 mm	166, 167

Resistive Power Dividers

Usage: Use in general RF and wireless applications where RF signals are to be either divided or combined.

Features: Excellent amplitude and phase tracking, bi-directional, isolated outputs

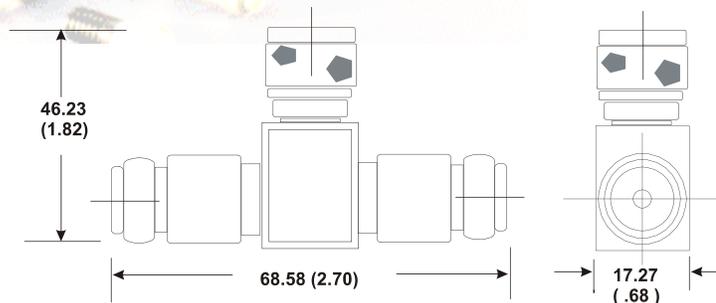
Resistive Power Dividers							
Model Number	Average Power (W)	Frequency Range DC - (GHz)	Maximum Insertion Loss (dB)	Amplitude Tracking (dB, max)	Phase Tracking (\pm deg)	Connectors	Page No.
WA1549R	1	4	6.5	0.15	4	SMA	155
WA1506A	1	18	7.5	0.50	5	N	150
WA1515	1	18	7.5	0.50	5	SMA	151 - 154
WA1574	1	26.5	6.5	1.0	2	3.5 mm	156, 157
WA1575	1	40	6.5	0.50	2	2.92 mm	158, 159



Broadband Resistive Power Divider WA1506A

DC - 18.0 GHz

1 WATT



Features

Type N male (combined port), Type N female (divided ports) connectors per MIL-STD-348 interface non-destructively with MIL-PRF-39012 connectors.

Features accurate division and low frequency sensitivity, high stability and matched ports.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Power Coefficient: < 0.005 dB/dB/W;

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Tracking: ±2° nominal between output ports, ±5° maximum.

Accurate Division and Low Frequency Sensitivity: The symmetry of output between the two arms is excellent across the frequency range.

Maximum Amplitude Tracking

Frequency Range (GHz)	Tracking (dB)
	WA1506A
DC - 4.0	0.2
4.0 - 10.0	0.4
10.0 - 18.0	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1506A
DC - 10.0	1.25
10.0 - 18.0	1.35

Dimensions:

Weight:	0.14 (4.94)
Length:	68.58 (2.7)
Width:	17.27 (0.68)
Height:	46.23 (1.82)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

High Stability: Low temperature and power coefficients ensure attenuator stability.

Matched Ports: Symmetrical 6 dB divisions permits any port to be used as input

Insertion Loss: 6 dB nominal, +1.2/-0.2 dB to 10.0 GHz; +1.5 dB to 18 GHz.

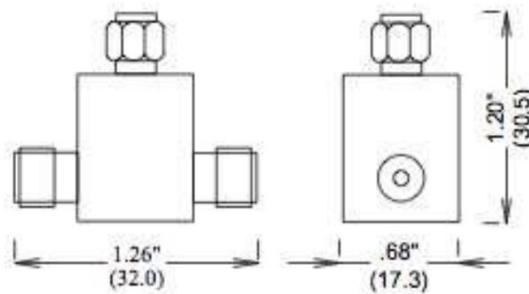
Number of Ports: 3 interchangeable for input and output.

Broadband Resistive Power Divider

WA1515

DC - 18.0 GHz

1 WATT



Features

Male SMA port 1, female SMA ports 2 and 3; all ports mate non-destructively with other SMA, 2.92mm and 3.5 mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Power Coefficient: < 0.005 dB/dB/W

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Shift: ±2° nominal between output ports, ±5° maximum.

Insertion Loss: 6 dB nominal, -0.2, +1.2 dB maximum to 10.0 GHz; +1.5 dB maximum to 18 GHz.

Maximum Amplitude Tracking

Frequency Range (GHz)	Tracking (dB)
	WA1515
DC - 4.0	0.2
4.0 - 10.0	0.4
10.0 - 18.0	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1515
DC - 10.0	1.25
10.0 - 18.0	1.35

Dimensions:

Weight:	0.05 (1.76)
Length:	34.54 (1.36)
Width:	17.27 (0.68)
Height:	30.48 (1.2)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divide WA1515IL

DC - 18.0 GHz

1 WATT

Preliminary

Features

Male SMA port 1, female SMA ports 2 and 3; all ports mate non-destructively with other SMA, 2.92mm and 3.5 mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Power Coefficient: < 0.005 dB/dB/W

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

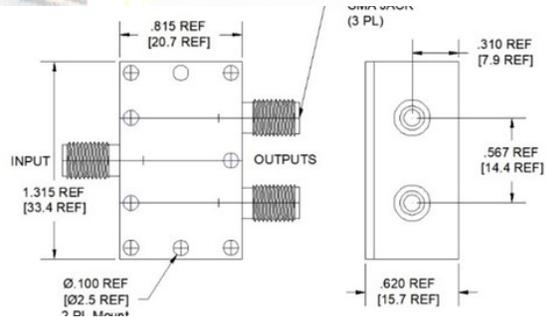
Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Aluminum body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Shift: ±2° nominal between output ports, ±5° maximum.

Insertion Loss: 6 dB nominal, -0.2, +1.2 dB maximum to 10.0 GHz; +1.5 dB maximum to 18 GHz.



Maximum Amplitude Tracking

Frequency Range (GHz)	Tracking (dB)
	WA1515
DC - 4.0	0.20
4.0 - 10.0	0.40
10.0 - 18.0	0.60

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1515
DC - 10.0	1.25
10.0 - 18.0	1.35

Dimensions:

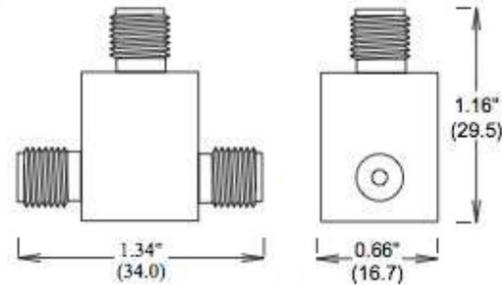
Weight:	0.05 (1.76)
Length:	33.40 (1.32)
Width:	20.70 (0.82)
Height:	15.70 (0.62)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divider WA1515-1

DC - 18.0 GHz

1 WATT



Features

Female SMA port 1, 2, and 3; all ports-mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Power Coefficient: < 0.005 dB/dB/W

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak power (5 usec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Shift: ±2° nominal between output ports, ±5° maximum.

Insertion Loss: 6 dB nominal, -0.2, +1.2 dB maximum to 10.0 GHz; +1.5 dB maximum to 18 GHz.

Maximum Amplitude Tracking

Frequency Range (GHz)	Tracking (dB)
	WA1515-1
DC - 4.0	0.2
4.0 - 10.0	0.4
10.0 - 18.0	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1515-1
DC - 10.0	1.25
10.0 - 18.0	1.35

Dimensions:

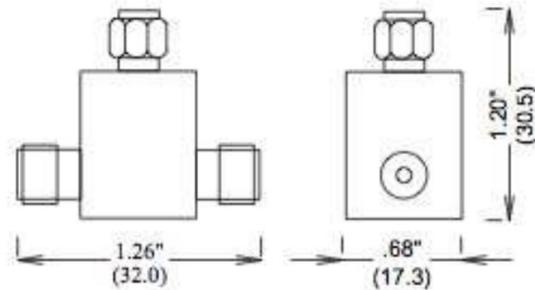
Weight:	00.05(1.76)
Length:	34.54(1.36)
Width:	17.27(0.68)
Height:	30.48(1.2)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divider WA1515-2

DC - 18.0 GHz

1 WATT



Features

Male SMA port 1, 2, and 3; all ports-mate non-destructively with other SMA, 2.92mm and 3.5 mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Power Coefficient: < 0.005 dB/dB/W

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak power (5 μ sec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Shift: $\pm 2^\circ$ nominal between output ports, $\pm 5^\circ$ maximum.

Insertion Loss: 6 dB nominal, -0.2, +1.2 dB maximum to 10.0 GHz; +1.5 dB maximum to 18 GHz.

Maximum Amplitude Tracking

Frequency Range (GHz)	Tracking (dB)
	WA1515-2
DC - 4.0	0.2
4.0 - 10.0	0.4
10.0 - 18.0	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1515-2
DC - 10.0	1.25
10.0 - 18.0	1.35

Dimensions:

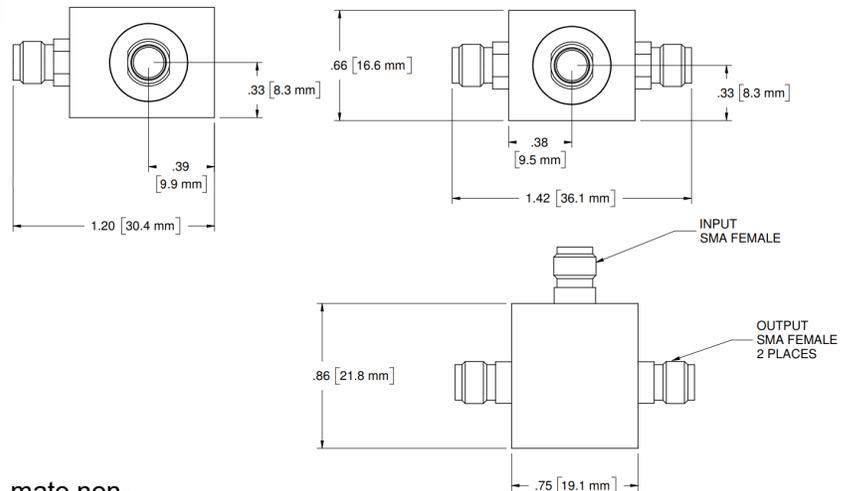
Weight:	0.05 (1.76)
Length:	34.54 (1.36)
Width:	17.27 (0.68)
Height:	30.48 (1.2)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divider WA1549R

DC - 4.0 GHz

1 WATT



Features

Female SMA connectors for all ports, mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Optional male connectors are available. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz

Power Coefficient: < 0.005 dB/dB/W

Power Rating: 1 W maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Tracking : < 4°

Insertion Loss: 6 dB nominal, 6.5 dB maximum (between input and either output).

Maximum Amplitude Tracking:

Frequency Range (GHz)	Tracking (dB)
	WA1549R
DC - 4.0	< 0.15

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1549R
DC - 4.0	1.25

Dimensions:

Weight:	0.05 (1.76)
Length:	34.54 (1.36)
Width:	17.27 (0.68)
Height:	30.48 (1.2)

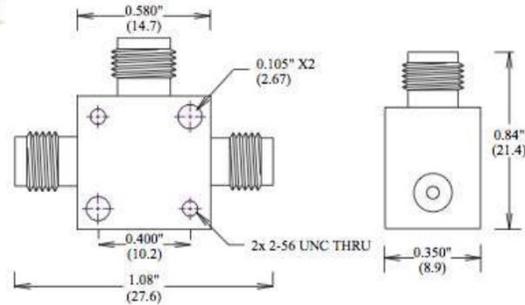
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divider

WA1574

DC - 26.5 GHz

1 WATT



Features

Female 3.5mm port 1, 2, and 3; all ports mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Lightweight miniature package with high power capability.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz

Power Coefficient: < 0.005 dB/dB/W.

Power Rating: 1 W maximum average rated power to 25°C ambient temperature. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +85°C.

Temperature Coefficient: < 0.004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Tracking: < 2°

Insertion Loss: 6 dB nominal, 8.5 dB maximum (between input and either output).

Maximum Amplitude Tracking:

Frequency Range (GHz)	Tracking (dB)
	WA1574
DC - 26.5	< 1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1574
DC - 26.5	1.7

Dimensions:

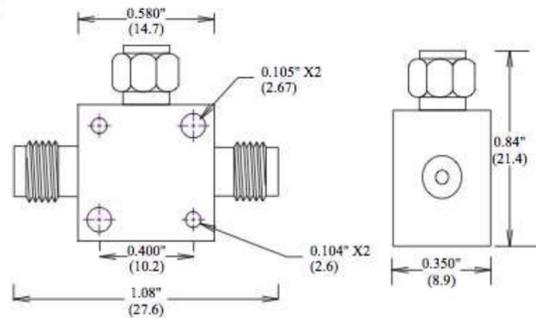
Weight:	0.01 (1.76)
Length:	29.00 (1.14)
Width:	9.00 (0.35)
Height:	22.00 (0.87)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divider WA1574-2

DC - 26.5 GHz

1 WATT



Features

Male 3.5mm port 1, (2) female 3.5mm ports 2 and 3; all ports -mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Lightweight miniature package with high power capability.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz

Power Coefficient: < 0.005 dB/dB/W.

Power Rating: 1 W maximum average rated power to 25°C ambient temperature. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +85°C.

Temperature Coefficient: < 0.004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Tracking: < 2°

Insertion Loss: 6 dB nominal, 8.5 dB maximum (between input and either output).

Maximum Amplitude Tracking:

Frequency Range (GHz)	Tracking (dB)
	WA1574-2
DC - 26.5	< 1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1575
DC - 26.5	1.7

Dimensions:

Weight:	0.01 (1.76)
Length:	29.00 (1.14)
Width:	9.00 (0.35)
Height:	22.00 (0.87)

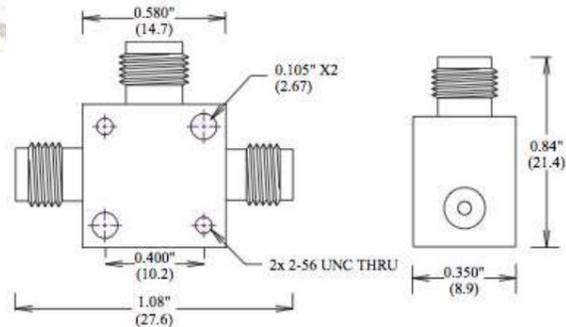
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divider

WA1575

DC - 40.0 GHz

1 WATT



Features

Female precision 2.92mm port 1, 2, and 3; all ports mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Lightweight miniature package with high power capability.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz

Power Coefficient: < 0.005 dB/dB/W.

Power Rating: 1 W maximum average rated power to 25°C ambient temperature. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +85°C.

Temperature Coefficient: < 0.004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase : < 2° (DC to 19 GHz), <5° (19 to 40 GHz)

Insertion Loss: 6 dB nominal, 8.5 dB maximum (between input and either output).

Maximum Amplitude Tracking:

Frequency Range (GHz)	Tracking (dB)
	WA1574
DC - 19	< 0.25
19 - 40	< 0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1575
DC - 40.0	1.7

Dimensions:

Weight:	0.01 (1.76)
Length:	29.00 (1.14)
Width:	9.00 (0.35)
Height:	22.00 (0.87)

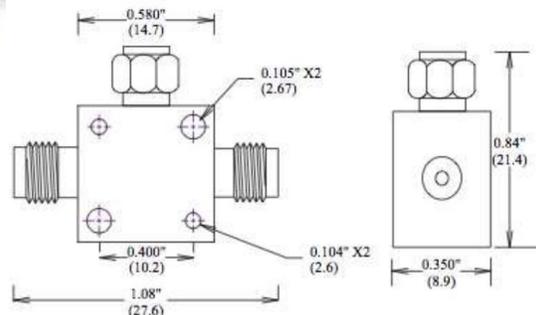
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Divider

WA1575-2

DC - 40.0 GHz

1 WATT



Features

Male precision 2.92 mm port 1, (2) female precision 2.92 mm ports 2 and 3; all ports -mate non-destructively with other SMA, 2.92 mm and 3.5 mm connectors. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Lightweight miniature package with high power capability.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz

Power Coefficient: < 0.005 dB/dB/W.

Power Rating: 1 W maximum average rated power to 25°C ambient temperature. 1 kW peak power (5 µsec pulse width, 0.05% duty cycle).

Temperature Range: -55°C to +85°C.

Temperature Coefficient: < 0.004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors; gold plated beryllium copper contacts. RoHS Compliant.

Phase Tracking : < 2° (DC to 19 GHz), <5° (19 to 40 GHz)

Insertion Loss: 6 dB nominal, 6.5 dB maximum (between input and either output).

Maximum Amplitude Tracking:

Frequency Range (GHz)	Tracking (dB)
	WA1575-2
DC - 19	< 0.25
19 - 40	< 0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1575-2
DC - 40.0	1.7

Dimensions:

Weight:	0.01 (1.76)
Length:	29.00 (1.14)
Width:	9.00 (0.35)
Height:	22.00 (0.87)

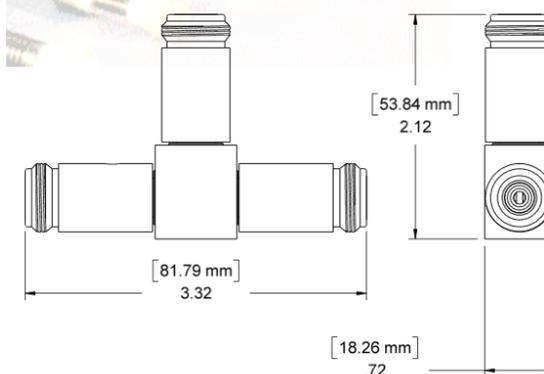
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter

PS-018

DC - 18.0 GHz

1 WATT



Features

Type N stainless steel F connectors per MIL-STD-348A, mates nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Unit may be mounted in any position.

Excellent amplitude tracking.
Low Equivalent SWR.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Power Sensitivity: < 0.005 dB/dB/W;
Unidirectional.

Power Rating: 1 W average to 25°C ambient temperature. 1 kW peak (5 µsec pulse width, 0.05% duty cycle), Input connector only. 1 W maximum input power.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Phase Tracking: ±2° nominal between output ports.

Insertion Loss: 6 dB (nominal), 7.5 dB (maximum).

Maximum Balance of Power Division:

DC - 8.0	0.15 dB
8.0 - 18.0	0.20 dB
Typical	0.1 dB

VSWR (both output port terminated in 50 ohms):

Frequency (GHz)	VSWR
DC - 18.0	1.3

Equivalent Output Wave SWR:

Frequency (GHz)	VSWR
DC - 2.0	1.05
2.0 - 4.0	1.07
4.0 - 8.0	1.1
8.0 - 18.0	1.25

Dimensions:

Weight:	0.17 (6.0)
Length:	68.60 (2.7)
Width:	17.30 (0.68)
Height:	47.00 (1.85)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter

7PS-018

DC - 18.0 GHz

1 WATT



Features

Type N stainless steel Female input, 7mm (APC-7) output connectors. per MIL-STD-348A, mates nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Power Sensitivity: < 0.005 dB/dB/W;
Unidirectional.

Power Rating: 1 W average to 25°C ambient temperature. 1 kW peak (5 µsec pulse width, 0.05% duty cycle), Input connector only. 1 W maximum input power.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Phase Tracking: ±2° nominal between output ports.

Insertion Loss: 6 dB (nominal), 7.5 dB (maximum)

VSWR:

1.3 (both output port terminated in 50 ohms):

Maximum Balance of Power Division:

Frequency (GHz)	dB
DC - 8.0	0.15
8.0 - 18.0	0.2
Typical	0.1

Equivalent Output Wave SWR:

Frequency (GHz)	VSWR
DC - 2.0	1.05
2.0 - 4.0	1.07
4.0 - 8.0	1.1
8.0 - 18.0	1.25

Dimensions:

Weight: 0.17 (6.0)
Length: 63.30 (2.7)
Width: 17.30 (0.68)
Height: 47.00 (1.85)

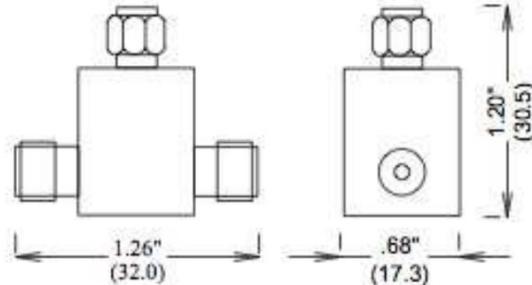
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter

WA1507R

DC - 4.0 GHz

1 WATT



Features

Male SMA port 1, female SMA ports 2 and 3. All ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz

Power Sensitivity: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: 1 W average to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak (5 µsec pulse width, 0.05% duty cycle), Input connector only.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body; stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Phase Tracking: < 4°

Insertion Loss: 6 dB (nominal), 6.5 dB (maximum).

Amplitude Tracking: < 0.15 dB

Maximum VSWR:

Frequency (GHz)	Output VSWR	Input VSWR
DC - 4.0	1.15	1.2

Dimensions:

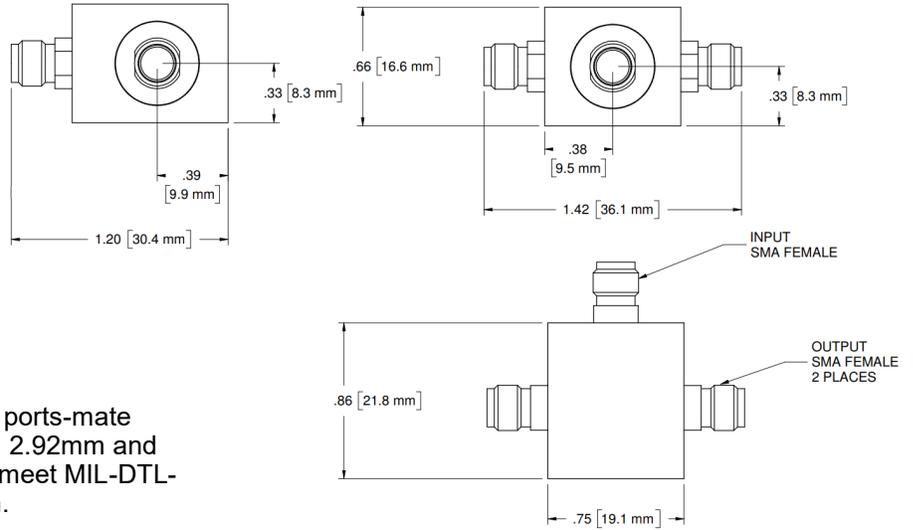
Weight:	0.05 (1.76)
Length:	34.54 (1.36)
Width:	17.27 (0.68)
Height:	30.48 (1.2)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter WA1507R-1

DC - 4.0 GHz

1 WATT



Features

Female SMA port 1, 2, and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz

Power Sensitivity: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: 1 W average to 25°C ambient temperature, de-rated linearly to 0.1 W at 125°C. 1 kW peak (5 μsec pulse width, 0.05% duty cycle), Input connector only.

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body, stainless steel connectors. Gold plated beryllium copper contacts. RoHS Compliant

Phase Tracking: < 4°

Insertion Loss: 6 dB (nominal), 6.5 dB (maximum).

Amplitude Tracking: < 0.15 dB

Maximum VSWR:

Frequency (GHz)	Output VSWR	Input VSWR
DC - 4.0	1.15	1.2

Dimensions:

Weight:	0.05 (1.76)
Length:	34.54 (1.36)
Width:	17.27 (0.68)
Height:	30.48 (1.2)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter WA1593

DC - 26.5 GHz

1 WATT



Features

Female 3.5mm port 1, 2, and 3; all ports -mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Optional female 3.5mm connectors are available on all ports. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz

Power Sensitivity: < 0.005 dB/dB/W;
Unidirectional in power.

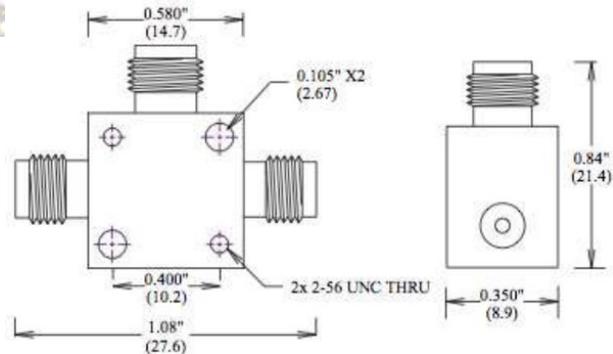
Power Rating: 1 W average to 25°C ambient temperature. 1 kW peak (5 µsec pulse width, 0.05% duty cycle), Input connector only.

Temperature Range: -55°C to +85°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body, stainless steel connectors, gold plated beryllium copper contacts, and through-holes provided for mounting. RoHS Compliant.

Phase Tracking: < 4°



Insertion Loss: 6 dB (nominal), 8.5 dB (maximum).

Amplitude Tracking: < 0.25 dB

Maximum VSWR:

Frequency (GHz)	Output VSWR	Input VSWR
DC - 26.5	1.35	1.4

Dimensions:

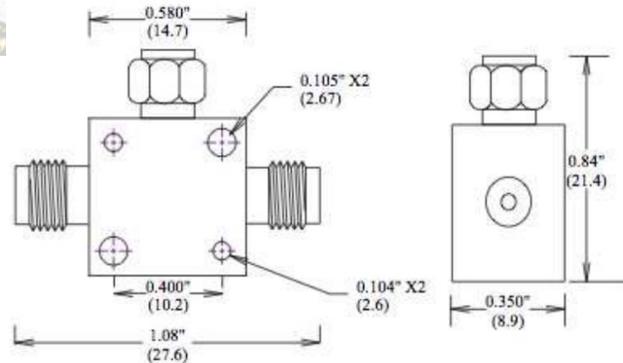
Weight:	0.01 (6.0)
Length:	29.00 (1.14)
Width:	9.00 (0.35)
Height:	22.00 (0.87)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter WA1593-2

DC - 26.5 GHz

1 WATT



Features

Male 3.5mm port 1, (2) female 3.5mm ports 2 and 3; all ports -mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Optional female 3.5mm connectors are available on all ports. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz

Power Sensitivity: < 0.005 dB/dB/W;
Unidirectional in power.

Power Rating: 1 W average to 25°C ambient temperature. 1 kW peak (5 µsec pulse width, 0.05% duty cycle), Input connector only.

Temperature Range: -55°C to +85°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Nickel plated brass body, stainless steel connectors, gold plated beryllium copper contacts, and through-holes provided for mounting. RoHS Compliant.

Phase Tracking: < 4°

Insertion Loss: 6 dB (nominal), 8.5 dB (maximum).

Amplitude Tracking: < 0.25 dB

Maximum VSWR:

Frequency (GHz)	Output VSWR	Input VSWR
DC - 26.5	1.35	1.4

Dimensions:

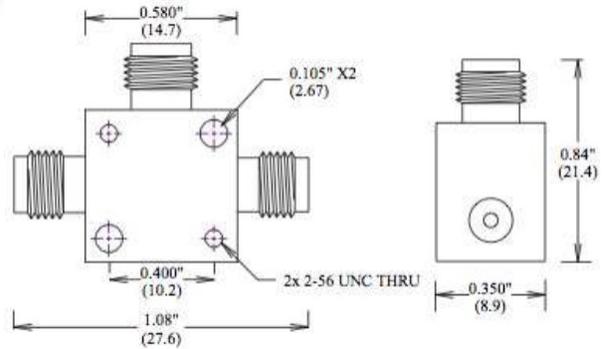
Weight:	0.01 (6.0)
Length:	29.00 (1.14)
Width:	9.00 (0.35)
Height:	22.00 (0.87)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter WA1534

DC - 40.0 GHz

1 WATT



Features

Female precision 2.92 mm ports 1, 2, and 3; all ports -mate non-destructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz

Power Rating: 1 W average to 25°C ambient temperature. 1 kW peak (5 µsec pulse width, 0.05% duty cycle, Input connector only).

Temperature Range: -55°C to +125°C.

Construction: Nickel plated brass body, stainless steel connectors, gold plated beryllium copper contacts, and through-holes provided for mounting. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost .

Phase Tracking: < 4°

Insertion Loss: 6 dB (nominal), 10.5 dB (maximum).

Amplitude Tracking: < 0.5 dB

Maximum VSWR:

Frequency (GHz)	Output VSWR	Input VSWR
DC - 40.0	1.7	1.6

Dimensions and Weight:

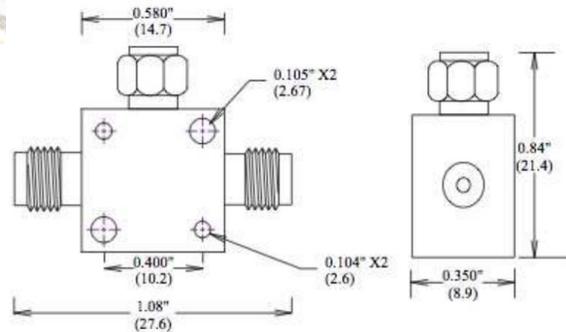
Weight:	0.01 (6.0)
Length:	28.91 (1.14)
Width:	8.89(0.35)
Height:	21.83(0.87)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Broadband Resistive Power Splitter WA1534-2

DC - 40.0 GHz

1 WATT



Features

Male precision 2.92 mm port 1, (2) Female precision 2.92 mm ports 2 and 3; all ports-mate nondestructively with other SMA, 2.92mm and 3.5mm connectors. Designed to meet MIL-DTL-3933 environmental specification.

Unit may be mounted in any position.

Features a lightweight miniature package with high power capability.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz

Power Rating: 1 W average to 25°C ambient temperature. 1 kW peak (5 µsec pulse width, 0.05% duty cycle, Input connector only).

Temperature Range: -55°C to +125°C.

Construction: Nickel plated brass body, stainless steel connectors, gold plated beryllium copper contacts, and through-holes provided for mounting. RoHS Compliant.

Calibration: VSWR performed across frequency range. Calibration test data available at additional cost.

Phase Tracking: < 4°

Insertion Loss: 6 dB (nominal), 10.5 dB (maximum).

Amplitude Tracking: < 0.5 dB

Maximum VSWR:

Frequency (GHz)	Output VSWR	Input VSWR
DC - 40.0	1.7	1.7

Dimensions:

Weight: ()
 Length: 27.6 (1.08)
 Width: 8.90(0.35)
 Height: 21.4(0.84)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

VARIABLE ATTENUATORS

DC – 40.0 GHz

0.3—5 WATTS

Continuously Variable Attenuators

Model Number	Frequency Range (GHz)	Average Power (W)	Peak Power (kW)	Residual Insertion Loss (dB)	Attenuation Range (dB)	Connectors and Mounting Notes	Page No.
VA-02-30	DC - 2	5	0.5	3	30	N, SMA	169
VA-02-60	DC - 2	5	0.5	5	60	N, SMA	169
VA-02-90	DC - 2	5	0.5	5	90	N, SMA	169
VA-02-100	DC - 2	5	0.5	5	100	N, SMA	169
VA-02-115	DC - 2	5	0.5	5	115	N, SMA	169
VA-03-30	DC - 3	5	0.5	3	30	N, SMA	169
VA-03-60	DC - 3	5	0.5	5	60	N, SMA	169
VA-03-90	DC - 3	5	0.5	5	90	N, SMA	169
VA-04-30	DC - 4	5	0.5	3	30	N, SMA	169
VA-04-60	DC - 4	5	0.5	5	60	N, SMA	169
VA-04-90	DC - 4	5	0.5	5	90	N, SMA	169
VA-05-60	DC - 5	5	0.5	5	60	N, SMA	169
All VA Models		Display for Variable Attenuators options					170

Programmable Step Attenuators

Model Number	Frequency Range	Average Power (W)	Peak Power (dBm)	Attenuation Range (dB)	Connectors and Mounting Notes	Page No.
DA6-60	DC - 6	0.3	+22 dBm	60	SMA	171
DA6-90	DC - 6	0.3	+22 dBm	90	SMA	171
DA13-60	DC - 13	0.3	+22 dBm	60	SMA	171
DA13-90	DC - 13	0.3	+22 dBm	90	SMA	171



* Other configurations are available

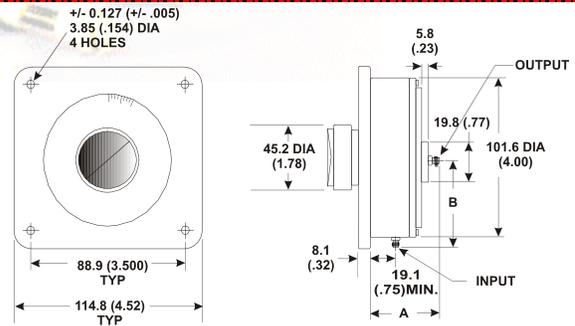
Custom solutions at “off-the-shelf” prices

Variable Attenuator

VA02-VA05

- VA02: DC - 2.0 GHz
- VA03: DC - 3.0 GHz
- VA04: DC - 4.0 GHz
- VA05: DC - 5.0 GHz

5 WATTS



Features

SMA and Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification. Features wide attenuation range, low residual insertion loss, and a long life.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: VA02: DC - 2.0 GHz.
VA03: DC - 3.0 GHz.
VA04: DC - 4.0 GHz.
VA05: DC - 5.0 GHz.

Power Sensitivity: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 W maximum rated average power to 40°C ambient temperature, de-rated linearly to 0 W at 85°C **500 W** peak power (5 µsec pulse width, 0.5% duty cycle).

Temperature Range:
Operating: 0°C to +85°C
Non-Operating: -55°C to +125°C

Temperature Coefficient: < 0.001 dB/dB/°C.

Construction: Stainless steel connectors, rugged construction, O-ring seal for faceplate. RoHS Compliant.

Calibration: Dial Calibrated in 1 dB increments at the mid-band frequency. (Dial is for reference only)

Rugged Construction: Designed and tested to meet the environmental requirements of MIL-DTL-24215.

Attenuation Range:

- VA02: 60, 90, or 115 dB
- VA03: 60, or 90 dB
- VA04: 60, or 90 dB
- VA05: 60 dB

Resolution:

- 60 dB ~180°
- 90 dB ~240°
- 100 dB ~270°
- 115 dB ~285°

Options: Rack Mount Kit, Bench Top Stand

Frequency (GHz)	VSWR (Max)			
	VA02	VA03	VA04	VA05
DC - 1.0	1.5	1.5	1.5	1.5
1.0 - 2.0	1.6	1.6	1.6	1.6
2.0 - 3.0	N/A	1.7	1.7	1.7
3.0 - 5.0	N/A	N/A	1.8	1.8

Attenuation Ranges	Insertion Loss (dB), Nominal			
	VA02	VA03	VA04	VA05
60-115 dB	5	5	5	5

Dimensions:
Weight: 1.13 (39.86)

Connector Option	DIM "A" mm (in.)	DIM "B" mm (in.)
-34	66.0 (2.6)	68.1 (2.68)
-44	66.0 (2.6)	71.9 (2.83)
-33	61.0 (2.4)	68.1 (2.68)
-12	55.6 (2.19)	58.2 (2.29)
-22	55.6 (2.19)	61.5 (2.42)
-11	52.3 (2.06)	58.2 (2.29)

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

Options For All VA Models

Rack Mount Kit:

*Available in single, double and triple sets.



Bench Top Stand:

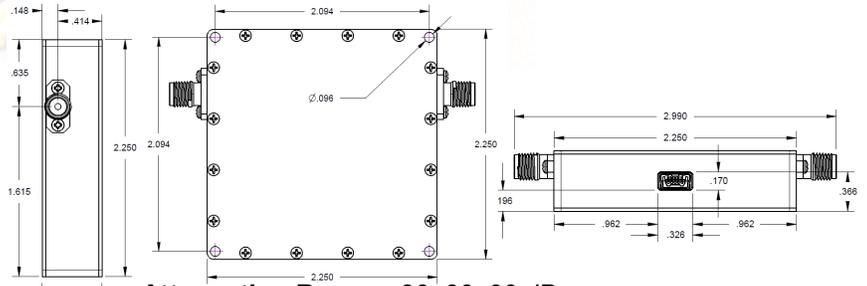
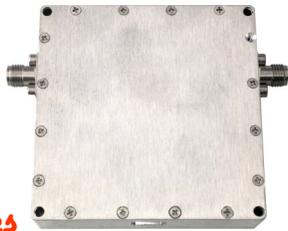


Variable Attenuator

DA6 & DA13

DA6: DC - 6.0 GHz
DA13: DC - 13.0 GHz

0.3 WATTS



Features

SMA stainless steel connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-C-39012. Thru-holes for mounting. Designed to meet MIL-DTL-3933 environmental specification.

Broadband frequency coverage. High accuracy and repeatability. Control surface provided. USB interface.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DA6: DC - 6.0 GHz.
 DA13: DC - 13.0 GHz.

Power Rating: 0.3 W maximum rated average power to 25°C ambient temperature (Bidirectional).

Temperature Range:
 Operating: -55°C to +85°C
 Non-Operating: -60°C to +125°C

Construction: RoHS Compliant

Switching Speed: 100 ns

Step Size: 0.5

Input Power: +22 dBm

Input Third Order Intercept Point: +32 dBm

Programming Interface Options: USB 2.0

Input Power Requirements: Powered via USB

Accuracy: ± 0.5 Db

Attenuation Range: 30, 60, 90 dB

Maximum VSWR: DA6: 1.5
 DA13: 1.5

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss (dB)	
	DA6-60	DA6-90
DC - 4.0	7.0	11.0
4.0 - 6.0	9.0	13.0

Frequency (GHz)	Insertion Loss (dB)	
	DA13-60	DA13-90
DC - 4.0	8.0	12.0
4.0 - 8.0	10.0	15.0
8.0 - 13.0	12.0	18.0

Programming Interface:

Options: USB-2.0 (standard)
 (Mini-USB Connector)
 RS-232
 802.11g Wireless
 Manual Control

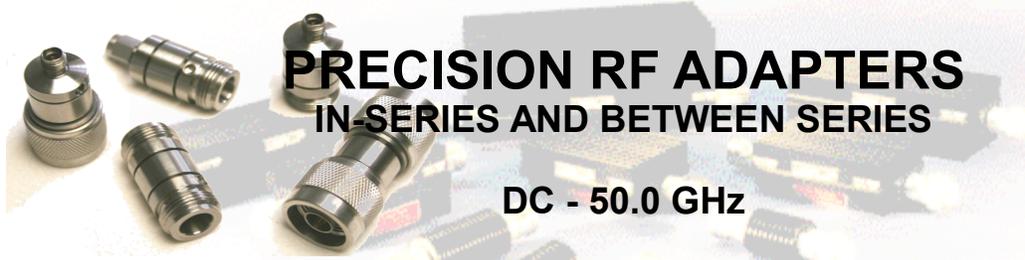
Software: LabView Driver
 Standalone Program

Input Power Requirement: Powered via USB
Options: AC Power Adapter
 EMI Feed thru

Dimensions and Weight:

Length: 57.2 (2.25)
 Depth: 14.2 (0.56)
 Height: 57.2 (2.25)
 Weight: 76.5 (2.7) MAX

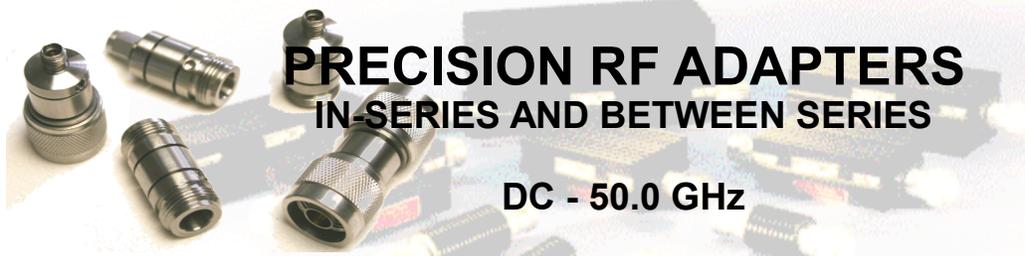
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



PRECISION RF ADAPTERS IN-SERIES AND BETWEEN SERIES

DC - 50.0 GHz

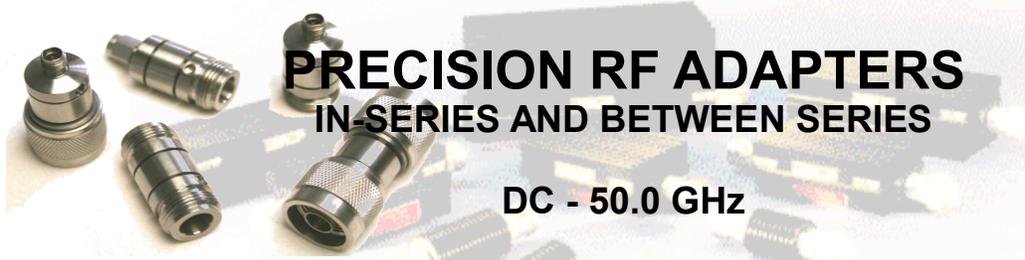
In-Series Precision RF Adapters				
Model Number	Connectors	Frequency Range DC - (GHz)	VSWR (max)	Page No.
WA1519-2104	4.3/10 (f) - N (m)	6	1.1	179
WA1519-2203	4.3/10 (m) - N (f)	6	1.1	179
WA1519-2103	4.3/10 (f) - N (f)	6	1.1	179
WA1519-2204	4.3/10 (m) - N (m)	6	1.1	179
WA1513-0303	N (f) - N (f)	18	1.15	175
WA1513-0404	N (m) - N (m)	18	1.15	175
WA1513-0304	N (f) - N (m)	18	1.15	175
WA1514/12-0505	TNC (f) - TNC (f)	12	1.15	176
WA1514/12-0506	TNC (f) - TNC (m)	12	1.15	176
WA1514/12-0606	TNC (m) - TNC (m)	12	1.15	176
WA1514-0505	TNC (f) - TNC (f)	18	1.15	176
WA1514-0506	TNC (f) - TNC (m)	18	1.15	176
WA1514-0606	TNC (m) - TNC (m)	18	1.15	176
WA1517-1919	BNC (f) - BNC (f)	4	1.20	178
WA1517-1920	BNC (f) - BNC (m)	4	1.20	178
WA1517-2020	BNC (m) - BNC (m)	4	1.20	178
WA1587-0101	SMA (f) - SMA (f)	27	1.20	183
WA1587-0102	SMA (f) - SMA (m)	27	1.20	183
WA1587-0202	SMA (m) - SMA (m)	27	1.20	183
WA7003-1111	3.5mm (f) - 3.5mm (f)	33	1.15	185
WA7003-1112	3.5mm (f) - 3.5mm (m)	33	1.15	185
WA7003-1212	3.5mm (m) - 3.5mm (m)	33	1.15	185
WA7004-1313	2.92mm (f) - 2.92mm (f)	40	1.25	1866
WA7004-1314	2.92mm (f) - 2.92mm (m)	40	1.25	186
WA7004-1414	2.92mm (m) - 2.92mm (m)	40	1.25	186
WA7005-1515	2.4mm (f) - 2.4mm (f)	50	1.20	187
WA7005-1516	2.4mm (f) - 2.4mm (m)	50	1.20	187
WA7005-1616	2.4mm (m) - 2.4mm (f)	50	1.20	187
WA7015-1717	1.85mm (f) - 1.85mm (f)	65	1.25	196
WA7015-1718	1.85mm (f) - 1.85mm (m)	65	1.25	196
WA7015-1818	1.85mm (m) - 1.85mm (m)	65	1.25	196



PRECISION RF ADAPTERS IN-SERIES AND BETWEEN SERIES

DC - 50.0 GHz

Between-Series Precision RF Adapters				
Model Number	Connectors	Frequency Range	VSWR (max)	Page No.
WA1516-0307	N (f) - 7/16 (f)	6	1.2	177
WA1516-0308	N (f) - 7/16 (m)	6	1.2	177
WA1516-0407	N (m) - 7/16 (f)	6	1.2	177
WA1516-0408	N (m) - 7/16 (m)	6	1.2	177
WA1548-0103	SMA (f) - N (f)	18	1.15	180
WA1548-0104	SMA (f) - N (m)	18	1.15	180
WA1548-0203	SMA (m) - N (f)	18	1.15	180
WA1548-0204	SMA (m) - N (m)	18	1.15	180
WA1550-0503	TNC (f) - N (f)	18	1.15	181
WA1550-0504	TNC (f) - N (m)	18	1.15	181
WA1550-0603	TNC (m) - N (f)	18	1.15	181
WA1550-0604	TNC (m) - N (m)	18	1.15	181
WA1551-0105	SMA (f) - TNC (f)	18	1.15	182
WA1551-0106	SMA (f) - TNC (m)	18	1.15	182
WA1551-0205	SMA (m) - TNC (f)	18	1.15	182
WA1551-0206	SMA (m) - TNC (m)	18	1.15	182
WA7002-0319	N (f) - BNC (f)	4	1.3	184
WA7002-0320	N (f) - BNC (m)	4	1.3	184
WA7002-0419	N (m) - BNC (f)	4	1.3	184
WA7002-0420	N (m) - BNC (m)	4	1.3	184
WA7002-0519	TNC (f) - BNC (f)	4	1.3	184
WA7002-0520	TNC (f) - BNC (m)	4	1.3	184
WA7002-0619	TNC (m) - BNC (f)	4	1.3	184
WA7002-0620	TNC (m) - BNC (m)	4	1.3	184
WA7006-1315	2.92mm (f) - 2.4mm (f)	40	1.25	188
WA7006-1316	2.92mm (f) - 2.4mm (m)	40	1.25	188
WA7006-1415	2.92mm (m) - 2.4mm (f)	40	1.25	188
WA7006-1416	2.92mm (m) - 2.4mm (m)	40	1.25	188
WA7007-1115	3.5mm (f) - 2.4mm (f)	33	1.15	189
WA7007-1116	3.5mm (f) 2.4mm (m)	33	1.15	189
WA7007-1215	3.5mm (m) - 2.4mm (f)	33	1.15	189
WA7007-1216	3.5mm (m) - 2.4mm (m)	33	1.15	189
WA7008-1103	3.5mm (f) - N (f)	18	1.15	190
WA7008-1104	3.5mm (f) - N (m)	18	1.15	190
WA7008-1203	3.5mm (m) - N (f)	18	1.15	190
WA7008-1204	3.5mm (m) - N (m)	18	1.15	190



PRECISION RF ADAPTERS IN-SERIES AND BETWEEN SERIES

DC - 50.0 GHz

Between-Series Precision RF Adapters				
Model Number	Connectors	Frequency Range DC - (GHz)	VSWR (max)	Page No.
WA7009-1303	2.92mm (f) - N (f)	18	1.15	191
WA7009-1304	2.92mm (f) - N (m)	18	1.15	191
WA7009-1403	2.92mm (m) - N (f)	18	1.15	191
WA7009-1404	2.92mm (m) - N (m)	18	1.15	191
WA7010-1301	2.92mm (f) - SMA (f)	27	1.20	192
WA7010-1302	2.92mm (f) - SMA (m)	27	1.20	192
WA7010-1401	2.92mm (m) - SMA (f)	27	1.20	192
WA7010-1402	2.92mm (m) - SMA (m)	27	1.20	192
WA7012-1503	2.4mm (f) - N (f)	18	1.15	193
WA7012-1504	2.4mm (f) - N (m)	18	1.15	193
WA7012-1603	2.4mm (m) - N (f)	18	1.15	193
WA7012-1604	2.4mm (m) - N (m)	18	1.15	193
WA7013-1501	2.4mm (f) - SMA (f)	27	1.20	194
WA7013-1502	2.4mm (f) - SMA (m)	27	1.20	194
WA7013-1601	2.4mm (m) - SMA (f)	27	1.20	194
WA7013-1602	2.4mm (m) - SMA (m)	27	1.20	194
WA7014-1311	2.92mm (f) - 3.5mm (f)	33	1.15	195
WA7014-1312	2.92mm (f) - 3.5mm (m)	33	1.15	195
WA7014-1411	2.92mm (m) - 3.5mm (f)	33	1.15	195
WA7014-1412	2.92mm (m) - 3.5mm (m)	33	1.15	195
WA7017-1317	2.92mm (f) - 1.85mm (f)	40	1.25	197
WA7017-1318	2.92mm (f) - 1.85mm (m)	40	1.25	197
WA7017-1417	2.92mm (m) - 1.85mm (f)	40	1.25	197
WA7017-1418	2.92mm (m) - 1.85mm (m)	40	1.25	197
WA7018-0111	SMA (f) - 3.5mm (f)	27	1.20	198
WA7018-0112	SMA (f) - 3.5mm (m)	27	1.20	198
WA7018-0211	SMA (m) - 3.5mm (f)	27	1.20	198
WA7018-0212	SMA (m) - 3.5mm (m)	27	1.20	198
WA7019-1117	3.5mm (f) - 1.85mm (f)	33	1.25	199
WA7019-1118	3.5mm (f) - 1.85mm (m)	33	1.25	199
WA7019-1217	3.5mm (m) - 1.85mm (f)	33	1.25	199
WA7019-1218	3.5mm (m) - 1.85mm (m)	33	1.25	199

Precision Coaxial Adapter

WA1513

DC – 18.0 GHz

Type N to Type N



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +100°C.

Construction: Passivated stainless steel body and gold plated beryllium copper contacts. RoHS Compliant

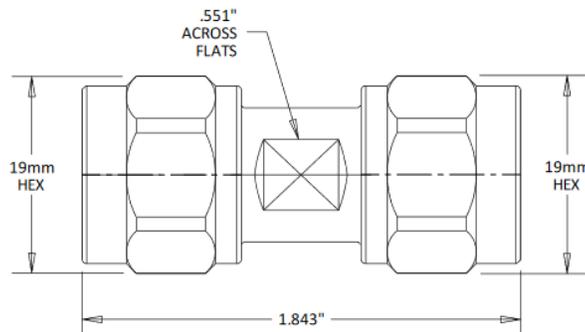
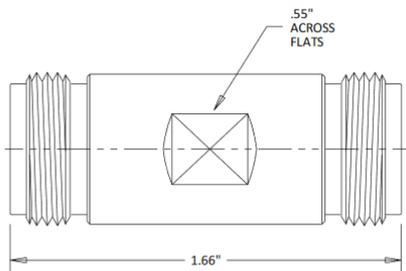
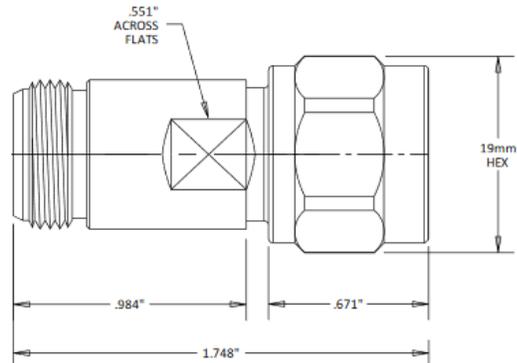
Options: Bulkhead Mount, Flange Mount, Right Angle

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1513
DC - 18.0	1.15

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA1514

WA1514/12: DC – 12.4 GHz
WA1514: DC – 18.0 GHz

TNC to TNC



Features

TNC stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA1514: DC - 18.0 GHz
 WA1514/12: DC - 12.4 GHz

Temperature Range: WA1514: -55°C to +100°C.
 WA1514/12: -55°C to +125°C.

Construction: Passivated stainless steel body and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

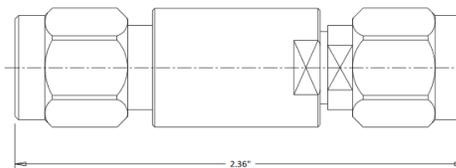
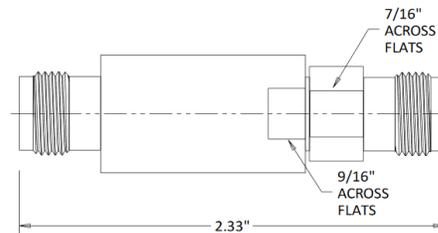
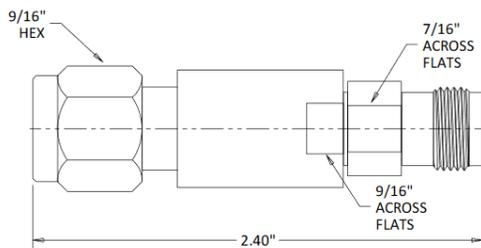
Frequency (GHz)	VSWR	
	WA1514	WA1514/12
DC - 12.4	1.15	1.15
12.4 - 18.0	1.15	N/A

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss	
	WA1514	WA1514/12
DC - 12.4	0.25	0.25
12.4 - 18.0	0.25	N/A

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA1516

DC – 6 GHz

Type N to 7/16 DIN



Features

Type N and 7/16 DIN stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6 GHz

Temperature Range: -55°C to +125°C

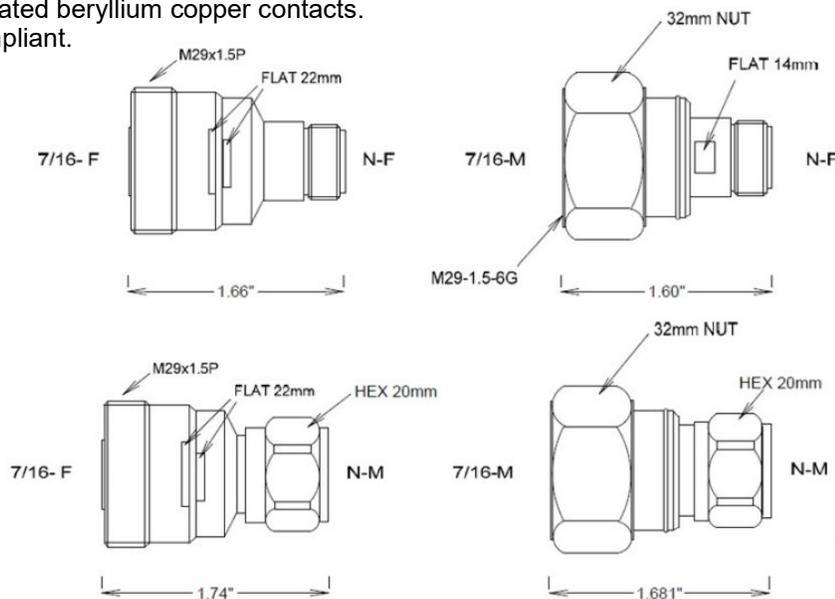
Construction: Passivated stainless steel body and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1516
DC - 6 GHz	1.2

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA1517

DC – 4.0 GHz

BNC to BNC



Features

BNC brass M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz

Temperature Range: -55°C to +120°C

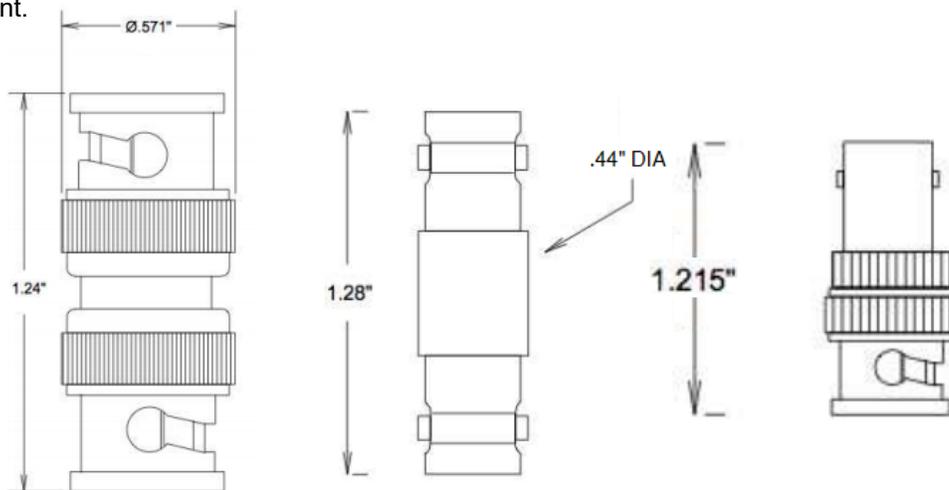
Construction: Nickel plated brass body and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR WA1517
DC - 4.0	1.2

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



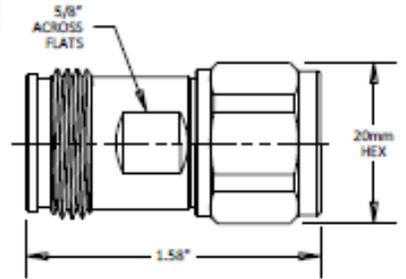
Precision Coaxial Adapter

WA1519

DC – 6.0 GHz



***WA1519-2104**



Features

2104: 4.3/10 Female to N type Male interface:
(IEC 61169-54 / MIL-STD-348B)

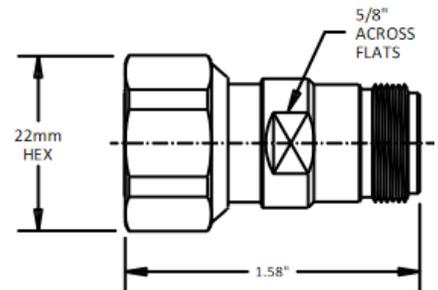
2203: 4.3/10 Male to N type Female interface:
(IEEE P287 / MIL-STD-348B)

2103: 4.3/10 Female to N type Female interface:
(IEC 61169-54 / MIL-STD-348B)

2204: 4.3/10 Male to N type Male interface:(MIL-STD-348B)

***All are ROHS compliant**

***WA1519-2203**



Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 6.0 GHz

Temperature Range: -45°C to +125°C

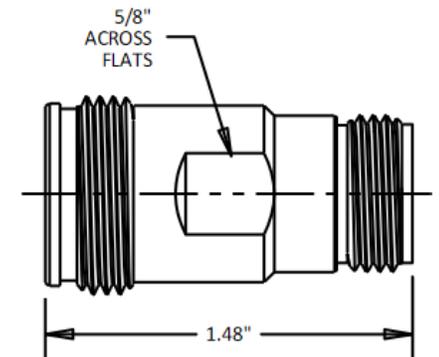
PIM: -165 dBc Max with 2 CW Tones @ 43 dBm

Construction: Albaloy plated brass body. Beryllium copper contacts with silver contact plating.

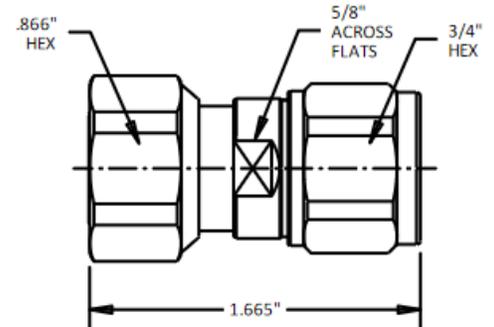
Maximum VSWR:

Frequency (GHz)	VSWR WA1519
DC - 6.0	1.1

***WA1519-2103**



***WA1519-2204**



Precision Coaxial Adapter

WA1548

DC – 18.0 GHz

SMA to Type N



Features

Type N and SMA M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Coupling Torque 14 in-lbs for N type and 8 in-lbs for SMA. Designed to meet MIL-DTL-3933 environmental specification.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1548
DC - 18.0	1.15

Specifications

Nominal Impedance: 50 ohms.

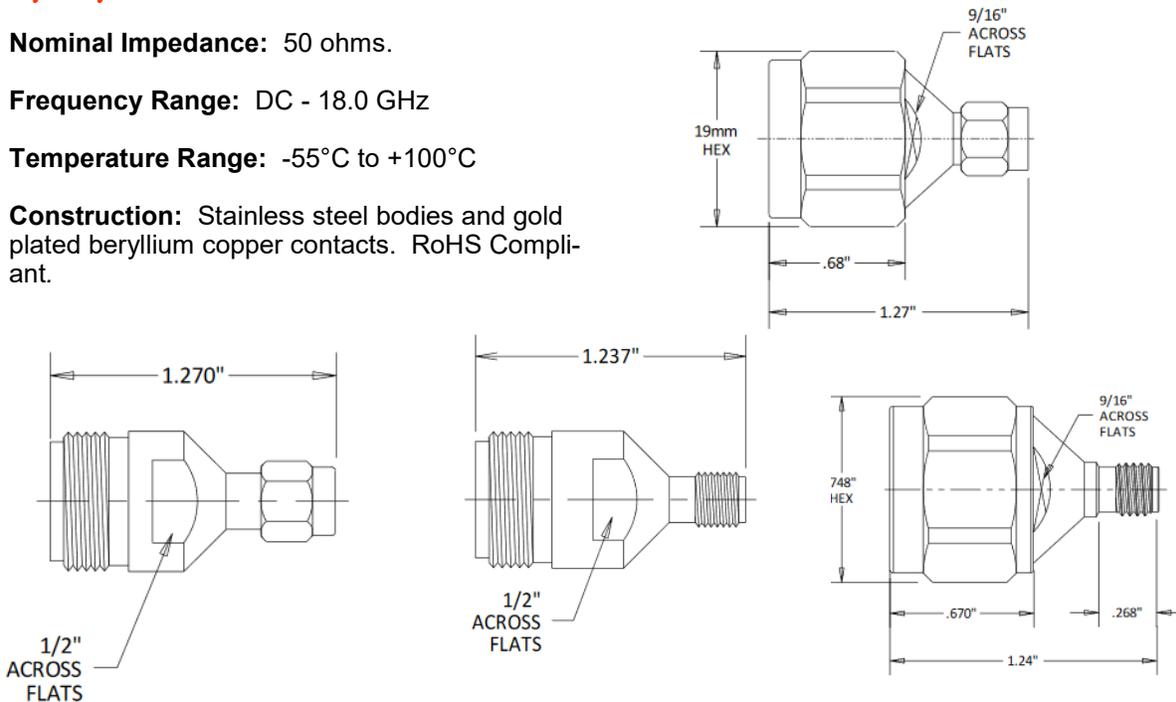
Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +100°C

Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA1550

DC – 18.0 GHz

TNC to Type N



Features

TNC and Type N M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1550
DC - 18.0	1.15

Specifications

Nominal Impedance: 50 ohms.

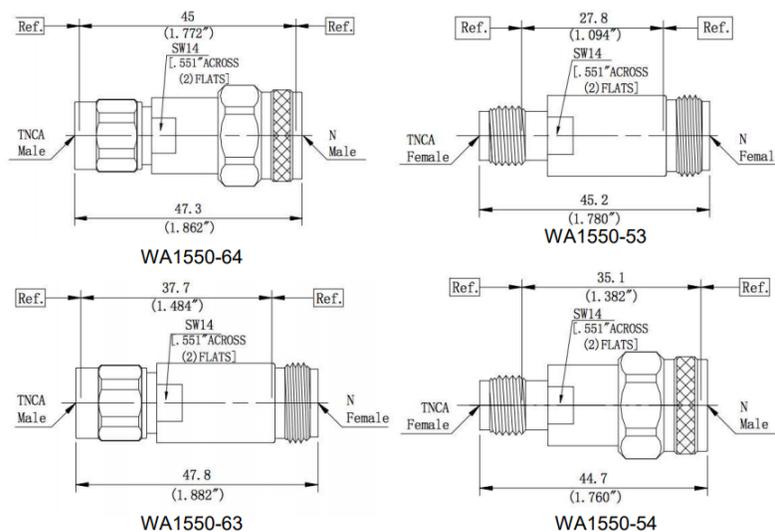
Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +125°C

Construction: Stainless steel bodies, stainless steel coupling nuts, and gold plated beryllium copper contacts. RoHS Compliant

Dimensions:

Note: Dimensions are given in mm (in) otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA1551

DC – 18.0 GHz

SMA to TNC



Features

SMA and TNC M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1551
DC - 18.0	1.15

Specifications

Nominal Impedance: 50 ohms.

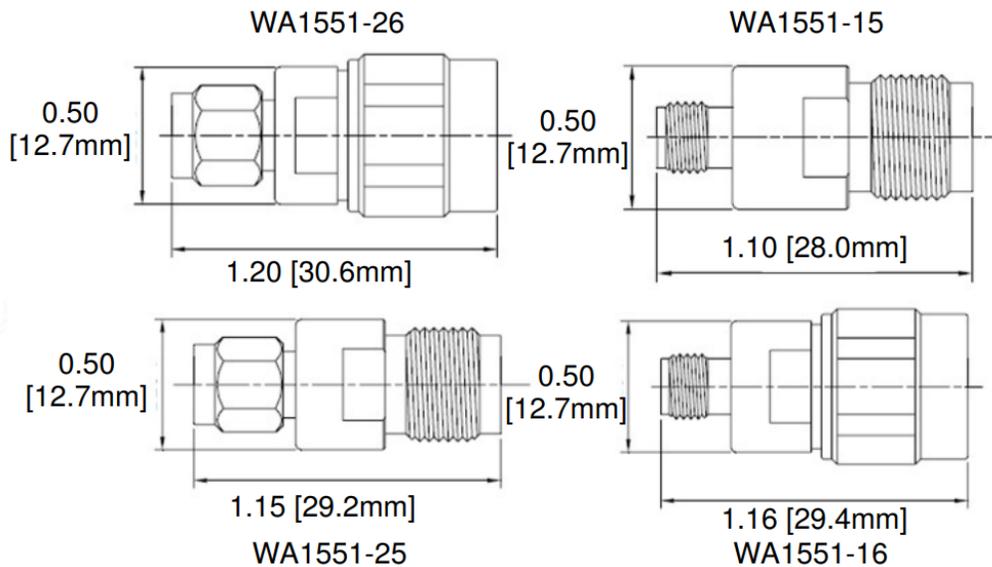
Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +100°C

Construction: Stainless steel bodies, stainless steel coupling nuts, and gold plated beryllium copper contacts. RoHS Compliant.

Dimensions:

Note: Dimensions are given in inches (mm) unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA1587

DC – 27.0 GHz

SMA to SMA



Features

SMA M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 27.0 GHz

Temperature Range: -55°C to +100°C

Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

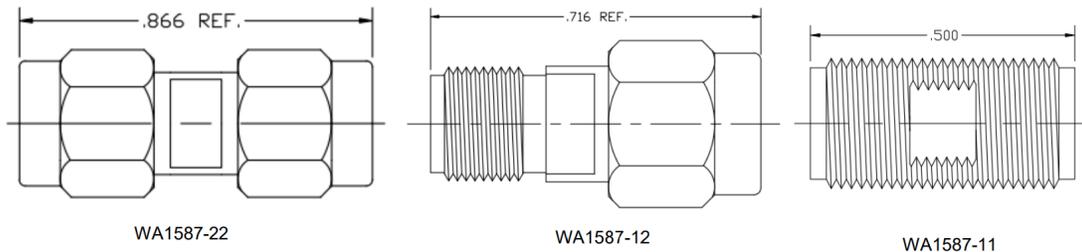
Options: Bulkhead Mount, Flange Mount, Right Angle, Swept 45 Degree Angle, Swept 90 Degree Angle.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA1587
DC - 18.0	1.15

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7002

DC – 4.0 GHz

Type N/TNC to BNC



Features

Type N or TNC M/F to BNC M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 4.0 GHz

Temperature Range: -55°C to +125°C

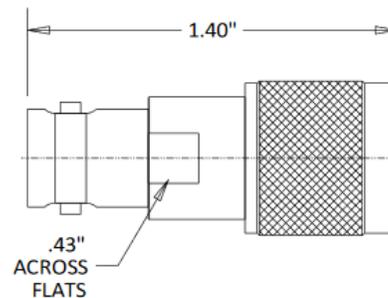
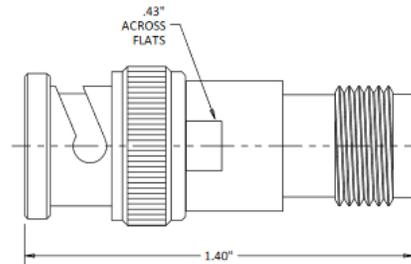
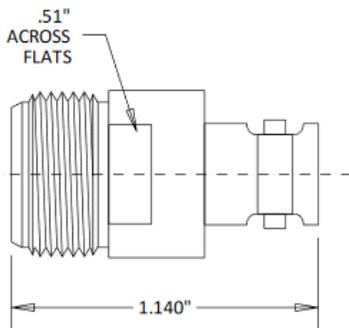
Construction: Passivated stainless steel body with nickel plated brass or stainless steel connectors. Gold plated beryllium contacts. RoHs compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7002
DC - 4.0	1.3

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7003

DC – 33.0 GHz

3.5 mm to 3.5 mm



Features

3.5 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 33.0 GHz

Temperature Range: -55°C to +100°C

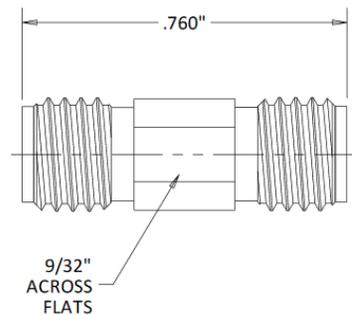
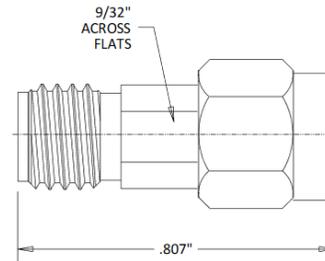
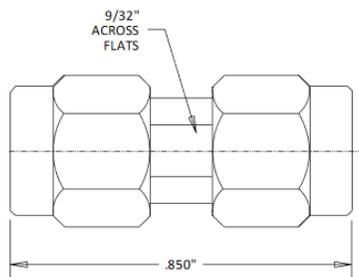
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7003
DC - 33.0	1.15

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7004

DC – 40.0 GHz

2.92 mm to 2.92 mm



Features

Precision 2.92 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz

Temperature Range: -55°C to +100°C

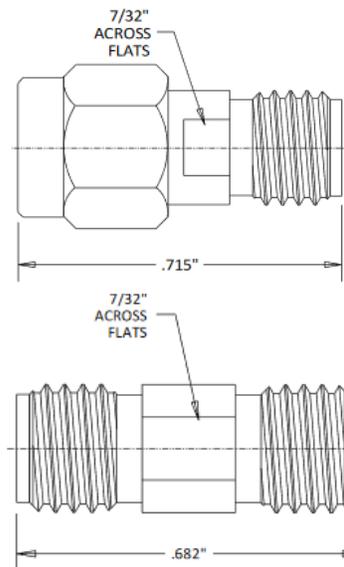
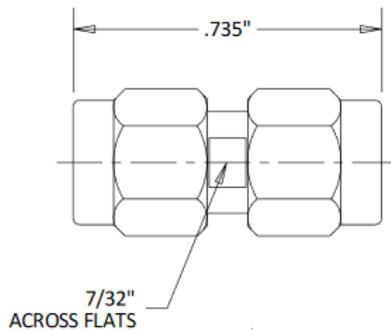
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7004
DC - 40.0	1.25

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7005

DC – 50.0 GHz

2.4 mm to 2.4 mm



Features

Precision 2.4 mm connectors M/F per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 50.0 GHz

Temperature Range: -55°C to +100°C

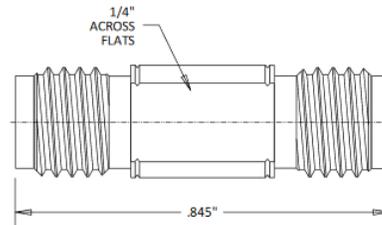
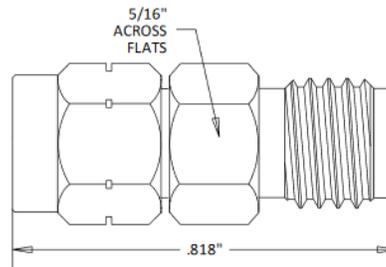
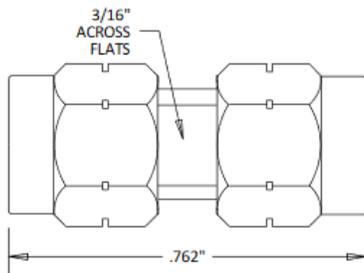
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7005
DC - 50.0	1.2

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7006

DC – 40.0 GHz

2.92 mm to 2.4 mm



Features

2.92 and 2.4 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7006
DC - 40.0	1.25

Specifications

Nominal Impedance: 50 ohms.

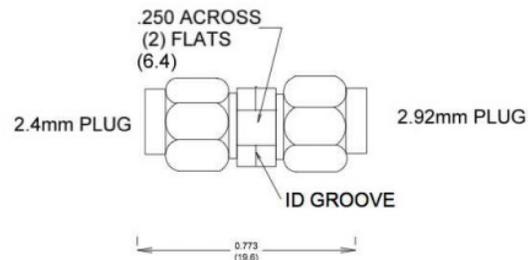
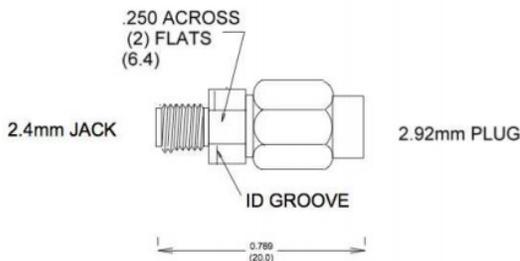
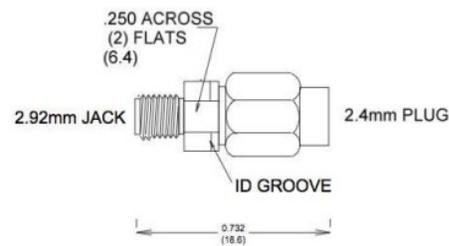
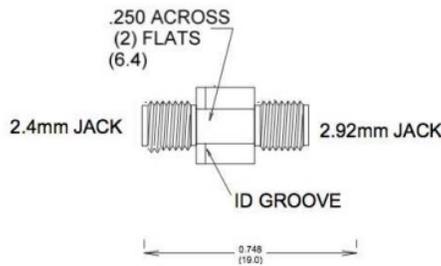
Frequency Range: DC - 40.0 GHz

Temperature Range: -55°C to +100°C

Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Dimensions:

Note: Dimensions are given in inches (mm) unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7007

DC – 33.0 GHz

3.5 mm to 2.4 mm



Features

3.5 and 2.4 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 33.0 GHz

Temperature Range: -55°C to +100°C

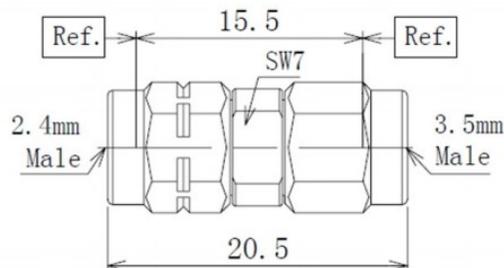
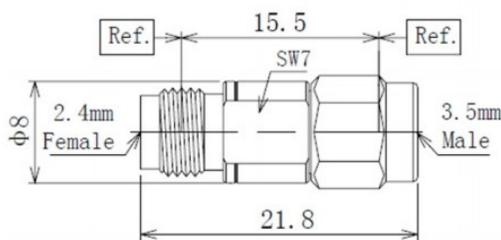
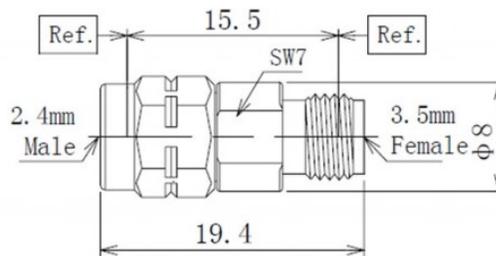
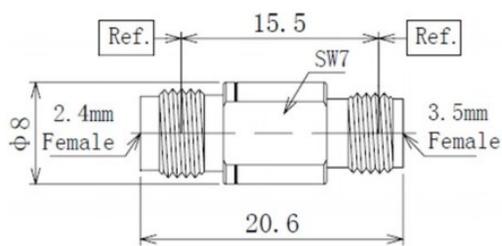
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7007
DC - 33.0	1.15

Dimensions:

Note: Dimensions are given in mm unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7008

DC – 18.0 GHz

3.5 mm to Type N



Features

3.5 mm and Type N M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Temperature Range: -60°C to +165°C

Maximum Insertion Loss: 0.15 dB

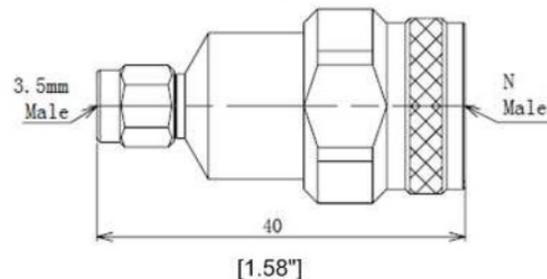
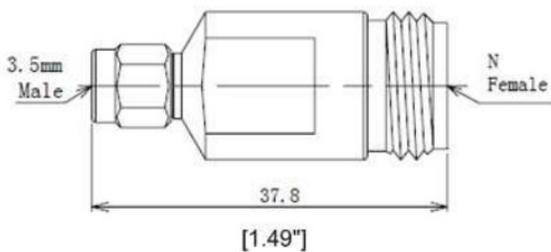
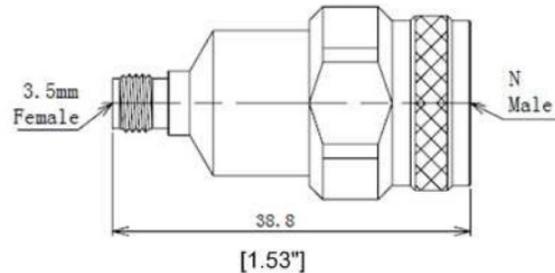
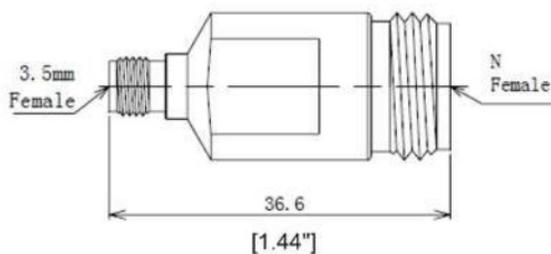
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7008
DC - 18.0	1.15

Dimensions:

Note: Dimensions are given in mm (in) unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7009

DC – 18.0 GHz

2.92 mm to Type N



Features

2.92 mm and Type N M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +100°C

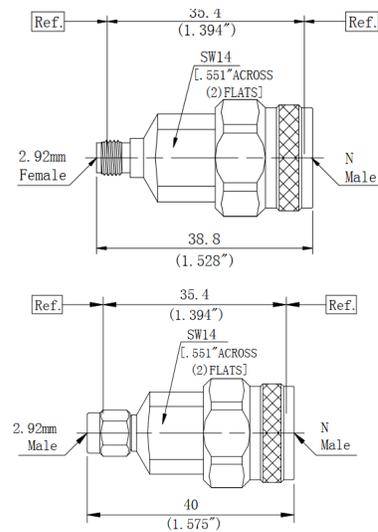
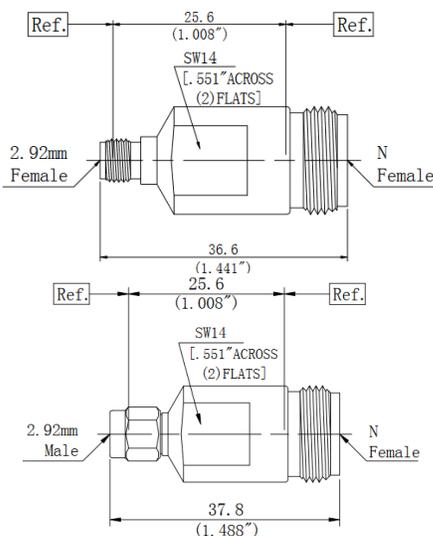
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7009
DC - 18.0	1.15

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7010

DC – 27.0 GHz

2.92 mm to SMA



Features

2.92 mm and SMA M/F connectors per MIL-STD -348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7010
DC - 27.0	1.2

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 27.0 GHz

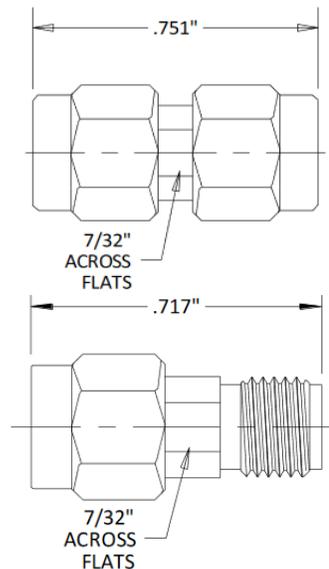
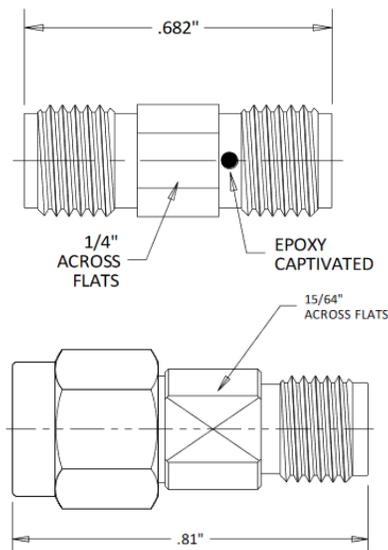
Power: Up to 10 W

Temperature Range: -55°C to +100°C

Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7012

DC –18.0 GHz

2.4 mm to Type N



Features

2.4 mm and Type N M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7012
DC - 18.0	1.15

Specifications

Nominal Impedance: 50 ohms.

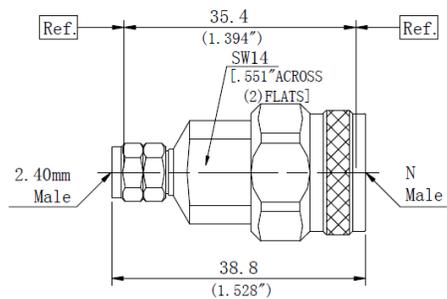
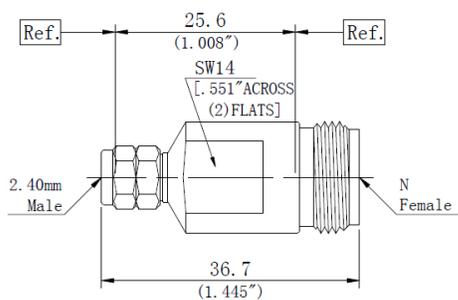
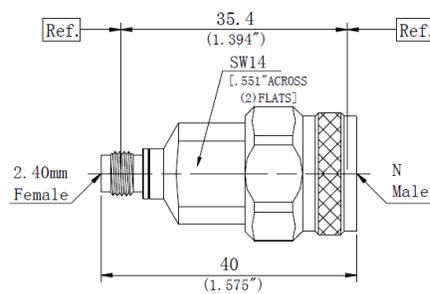
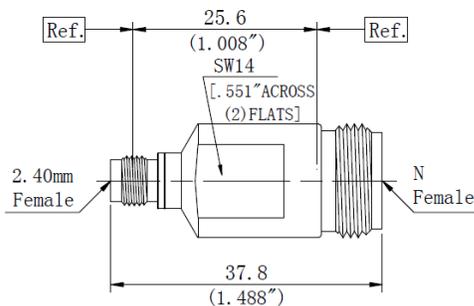
Frequency Range: DC - 18.0 GHz

Temperature Range: -55°C to +100°C

Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7013

DC – 27.0 GHz

2.4 mm to SMA



Features

2.4 mm and Type N M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 27.0 GHz

Temperature Range: -55°C to +165°C

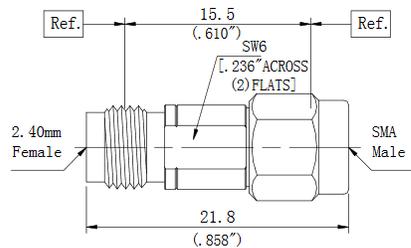
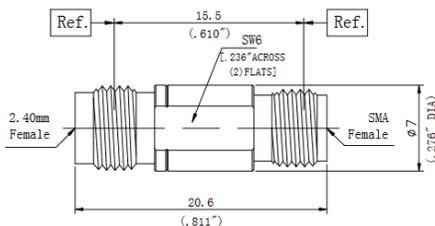
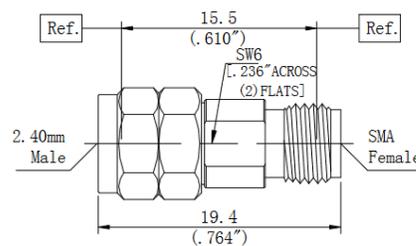
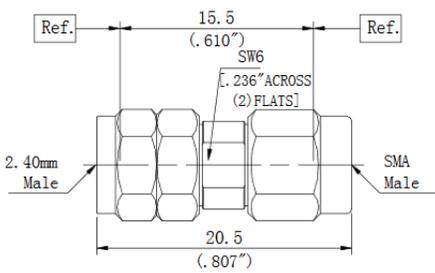
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR WA7013
DC - 27.0	1.15

Dimensions:

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available



Precision Coaxial Adapter

WA7014

DC – 33.0 GHz

2.92 mm to 3.5 mm



Features

2.92 mm and 3.5 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 33.0 GHz

Temperature Range: -55°C to +100°C

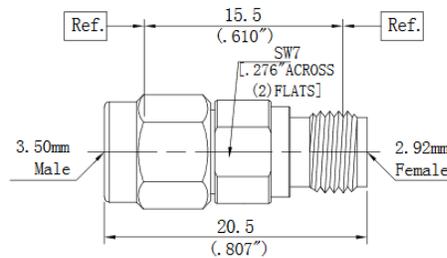
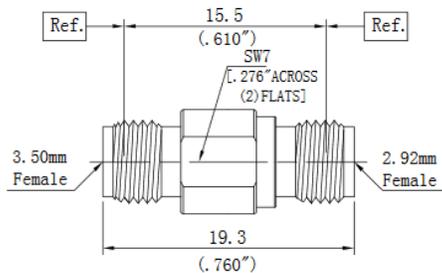
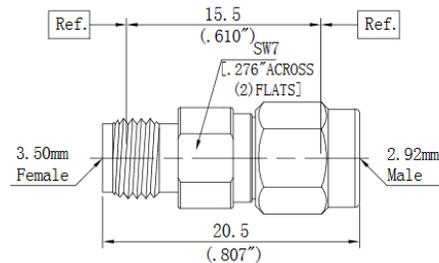
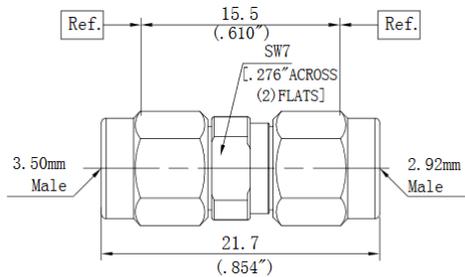
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7014
DC - 33.0	1.15

Dimensions:

Note: Dimensions are given in mm (in) unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7015

DC – 65.0 GHz

1.85 mm to 1.85 mm



Features

Precision 1.85 mm M/F connectors per MIL-STD -348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 65.0 GHz

Temperature Range: -55°C to +165°C

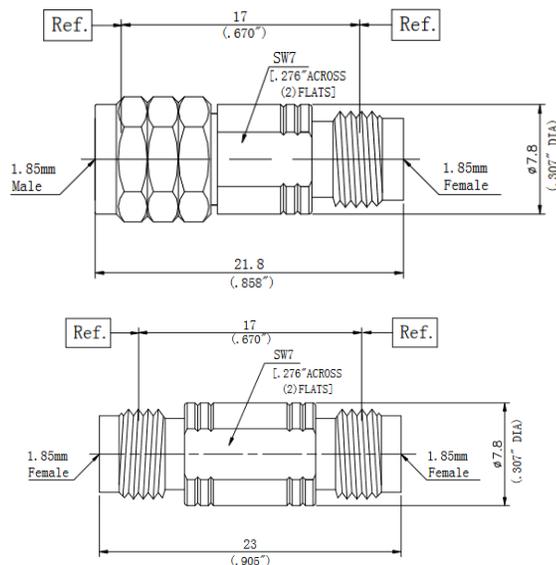
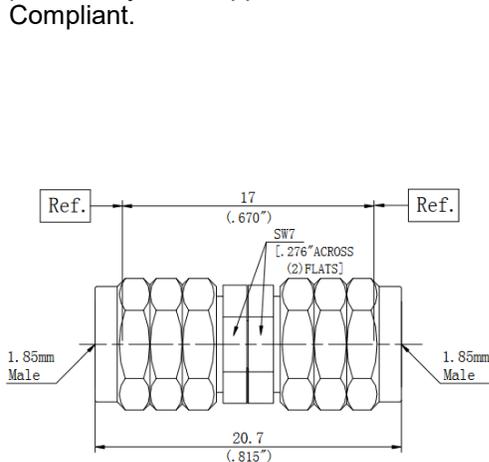
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR WA7015
DC - 65.0	1.25

Dimensions:

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available



Precision Coaxial Adapter

WA7017

DC -40.0 GHz

2.92 mm to 1.85 mm



Features

2.92 mm and 1.85 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40.0 GHz

Temperature Range: -55°C to +165°C

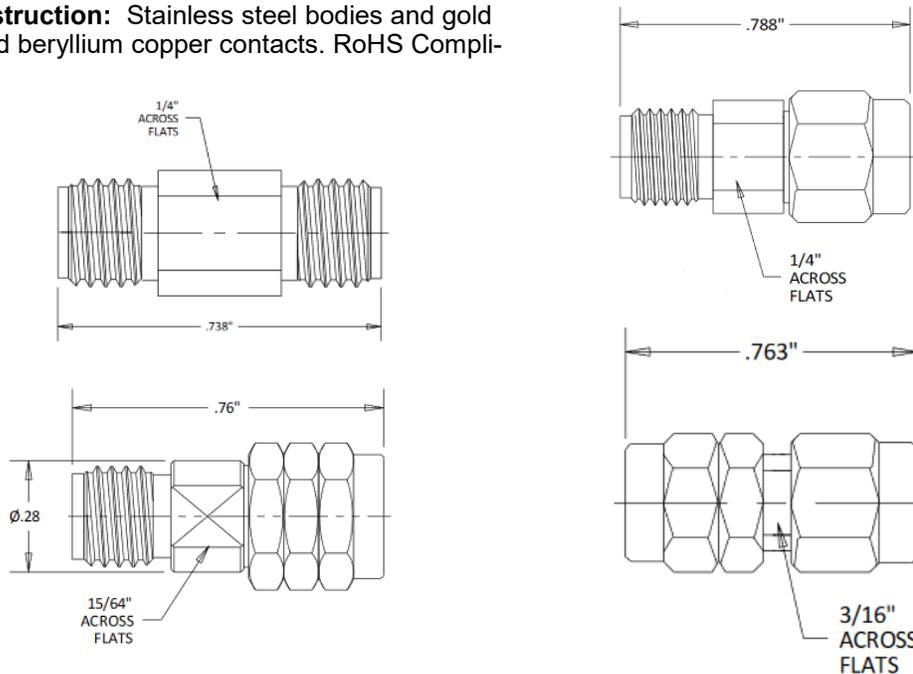
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 40.0	1.25

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7018

DC – 27.0 GHz

SMA to 3.5 mm



Features

SMA and 3.5 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 27.0 GHz

Temperature Range: -55°C to +165°C

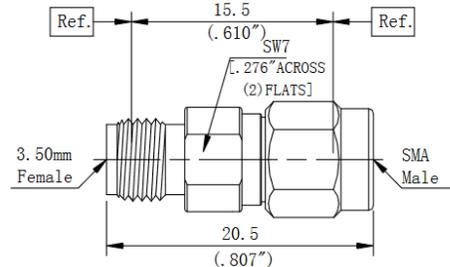
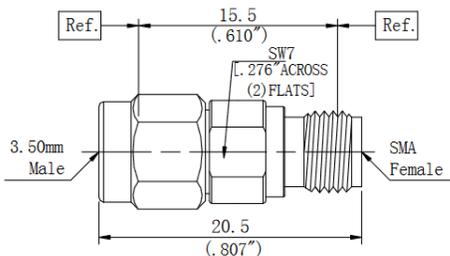
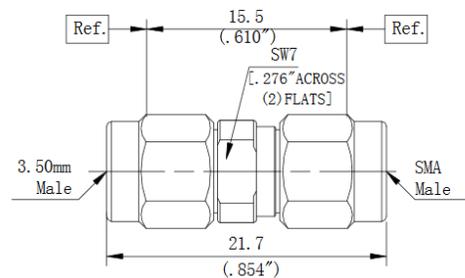
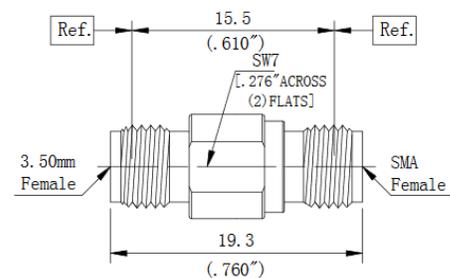
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7018
DC - 27.0	1.15

Dimensions:

Note: Dimensions are given in mm (in) unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



Precision Coaxial Adapter

WA7019

DC – 33.0 GHz

1.85 mm to 3.5 mm



Features

1.85 mm and 3.5 mm M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012 connectors. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 33.0 GHz

Temperature Range: -65°C to +85°C

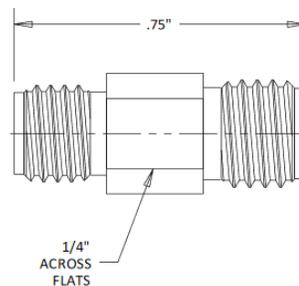
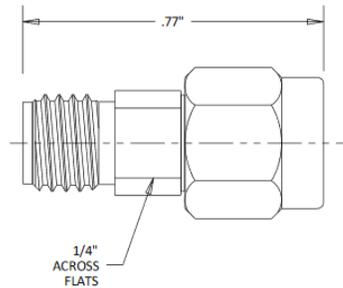
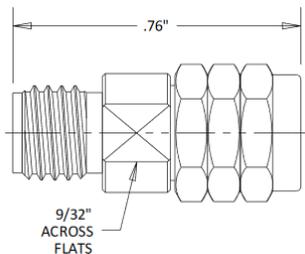
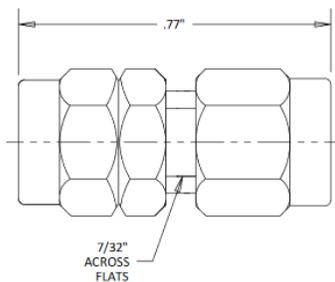
Construction: Stainless steel bodies and gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR
	WA7019
DC - 33.0	1.25

Dimensions:

Note: Dimensions are given in inches unless otherwise specified. Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.



PRECISION ATTENUATOR SETS

DC – 40.0 GHz

2– 5 WATTS

Precision Coaxial Attenuator Sets

Model Number	Frequency Range DC - (GHz)	Average Power (W)	Peak Power (kW)	Standard* Attenuation Values (dB)	Connectors	Attenuators Used	Page No.
WAS1	12.4 and 3	5 and 2	1	3, 6, 10, 20	N	4 x WA1, 4 x WA50	201
WAS6	18	5	1	3,6,10,20	N	4 x WA2	208
WAS18	18	5	1	1,3,6,10,20,30	Precision N	6 x WA44	202
WAS19	26.5	2	0.5	3,6,10,20	SMA	4 x WA9	203
WAS20	40	2	0.2	3,6,10,20	2.92 mm	4 x WA54	204
WAS4	18	2	0.5	3,6,10,20	SMA	4 x WA4	205
WAS4C	18	2	0.25	3,6,10,20	SMA	4 x WA4C	206
WAS4M	18	2	0.5	3,6,10,20	SMA	4 x WA4M	207
WAS54	40	2	0.2	3, 6, 10, 20	2.92mm	4 x WA54	209

* Other configurations are available

Features

- Calibration Data:** Attenuators are calibrated at 1 GHz intervals. Option 890 adds calibration data at 0.1 GHz and at 0.5 GHz intervals. DC Resistance values also provided.
- Certificate of Calibration:** Provided with each set, contains all calibration data.
- Storage Case:** Compact storage case organizes and protects the attenuators and their calibration data.
- Custom Sets Available:** Build your own set from our extensive offering of Fixed Coaxial Attenuators.



Custom solutions at “off-the-shelf” prices

PRECISION ATTENUATOR SET

WAS1

4 WA50's (3, 6, 10, 20 dB) and 4 model WA1's (3, 6, 10, 20 dB)

DC – 12.4 GHz (WA 1)

DC - 3.0 GHz (WA50)

5 WATTS



Features

The model WAS1 comes complete with Certificate of Calibration and protective case for storing your attenuators. The WAS1 consists of 4 calibrated model WA1 attenuators and 4 model 50 attenuators at 3, 6, 10, and 20 dB. The following data for each attenuator are provided:

Type N-type stainless steel M/F connectors per MIL-STD-348B, interface dimensions mate nondestructively with MIL-PRF-39012.

Designed to meet MIL-DTL-3933 environmental specification.

Specifications

WA1

Nominal Impedance: 50 ohms.

Frequency Range: : DC - 12.4 GHz.

Nominal dB Values: 1 - 60 dB

Power Coefficient: <0.005 dB/dB/W. Bidirectional in power.

Power Rating: 5 W average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 kW peak (5 µsec pulse width; 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Construction: Passivated stainless steel body and connectors, gold plated beryllium copper contacts. RoHS Compliant.

WA50

Nominal Impedance: 50 ohms.

Frequency Range: DC - 3 GHz.

Nominal dB Values: 1 - 50 dB

Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, derated linearly to 0 W at 125°C. 1 kW peak (5 µsec pulse width, 0.1% duty cycle).

Temperature Range: -30°C to 70°C

Construction: Stainless steel barrel with passivated stainless steel connectors. Gold plated beryllium copper or stainless steel contacts.

***For additional specifications, please visit pages 1 (WA1) and 46 (WA50)**

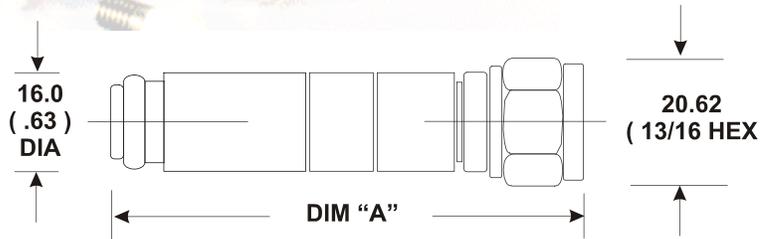
PRECISION ATTENUATOR SET

WAS18

1 Each WA44-1, WA44-3, WA44-6, WA44-10, WA44-20, WA44-30

DC – 18 GHz

5 WATTS



Features

The model WAS18 comes complete with Certificate of Calibration and protective case for storing your attenuators. The WAS18 consists of 6 calibrated model WA44 attenuators at 1, 3, 6, 10, 20, and 30 dB. The following data for each attenuator are provided:

3 DC resistance values and insertion loss every 1.0 GHz from DC through 18.0 GHz.

✦ R.F Calibration Option -890 (42 frequencies) 100, 500, 1,000 and every 500 MHz to 16,000; 16,000 to 18,000 every 250 MHz.

Type N-type stainless steel M/F connectors per MIL-STD-348B, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18 GHz.

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 5 W average to 25°C ambient temperature, de-rated linearly to 0W at 125° C, 1kW peak (5 µsec pulse width, 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum Deviation From Nominal Value

Attenuation (dB)	Accuracy ± dB
	WA44
1, 3, 6	0.3
10, 20	0.5
30	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
	WA44
DC - 4.0	1.15
4.0 - 12.4	1.2
12.4 - 18.0	1.25

Individual Dimensions:

Length (Dim "A"):	74.4 (2.93)
Diameter:	16.0 (.63)
Weight:	0.10 (3.5)

Case Dimensions: 10 ¾ in. (273 mm) long x 8 ½ in. (215.9 mm) wide x 2 ½ in. (63.5 mm) high.

Weight: Net 2 lb., 8 oz. (1.12 kg); Shipping weight, 3 lbs. (1.36 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper or stainless steel contacts.

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

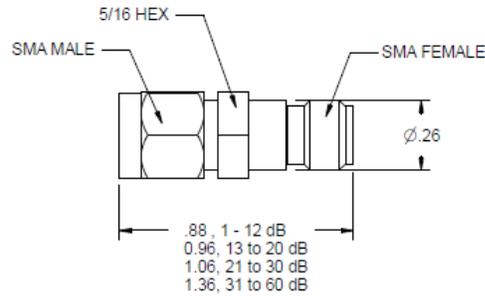
PRECISION ATTENUATOR SET

1 Each WA9-3, WA9-6, WA9-10, WA9-20

WAS19

DC - 26.5 GHz

2 WATTS



Features

The model WAS19 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS19 consists of 4 calibrated model WA9 attenuators, 3, 6, 10, and 20 dB. The following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 26.0 GHz.

✪ R.F Calibration Option -890 (42 frequencies) 100, 500, 1,000 and every 500 MHz to 16,000; 16,000 to 18,000 every 250 MHz.

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 26.5 GHz.

Nominal dB Values: 0 - 60 dB

Power Coefficient: < 0.005 dB/dB/W; Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, de-rated linearly to 0.5W at 125°C, 500 W peak (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum Deviation From Nominal Value

Attenuation (dB)	Accuracy ± dB
3	0.5
6	0.6
10	0.8
20	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 4.0	1.15
4.0 - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35
18.0 - 26.5	1.5

Individual Dimensions:

Attenuation (dB)	WA9	
	Length	Weight
3, 6, 10	22.4 (.88)	3.9 (.14)
20	24.4 (.96)	4.3 (.15)

Body Diameter: 6.6 (.26)

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts.

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

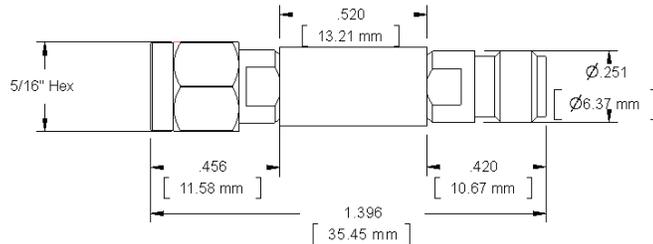
PRECISION ATTENUATOR SET

1 Each WA54-3, WA54-6, WA54-10, WA54-20

WAS20

DC - 40 GHz

2 WATTS



Features

The model WAS20 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS20 consists of 4 calibrated model WA54 attenuators, 3, 6, 10, and 20 dB. The following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 40.0 GHz.

✪ R.F Calibration Option -890: 100, 500, 1,000 and every 500 MHz to 26,500; 26,500 to 40,000 every 250 MHz.

Precision 2.92mm stainless steel M/F connectors per MIS-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40 GHz.

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 0.1W at 100°C, **200 W** peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum Deviation From Nominal Value:

Attenuation (dB)	Accuracy ± dB
3, 6, 10, 20	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.25
26.5 - 40.0	1.45

Individual Dimensions:

Length:	35.5 (1.40)
Body Diameter:	6.4 (.25)
Weight:	.008 (.28)

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

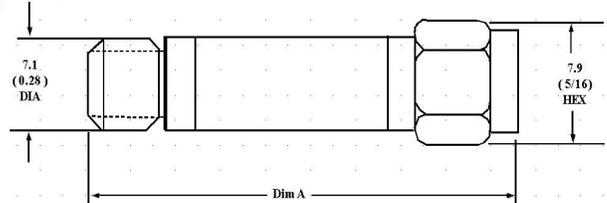
PRECISION ATTENUATOR SET

1 Each WA4-3, WA4-6, WA4-10, WA4-20

WAS4

DC – 18.0 GHz

2 WATTS



Features

The model WAS4 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS4 consists of 4 calibrated model WA4 attenuators, 3, 6, 10, and 20 dB. The following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 18.0 GHz.

✦ R.F Calibration Option -890: 100, 500, 1,000 and every 500 MHz to 26,500; 26,500 to 40,000 every 250 MHz.

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125° C, **500 W** peak (5 µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum Deviation From Nominal Value (including frequency sensitivity):

Attenuation (dB)	Accuracy ± dB
	WA4
3, 6	0.3
10	0.5
20	0.7

Maximum VSWR:

Frequency (GHz)	VSWR
	WA4
DC - 4.0	1.15
4.0 - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Individual Dimensions:

Attenuation (dB)	WA4	
	Length (Dim "A")	Weight
3, 6, 10	31.2 (1.23)	3.9 (.14)
20	33.3 (1.31)	4.3 (.15)

Body Diameter: 7.1 (2.8)

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts, stainless steel male contacts. RoHS Compliant

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

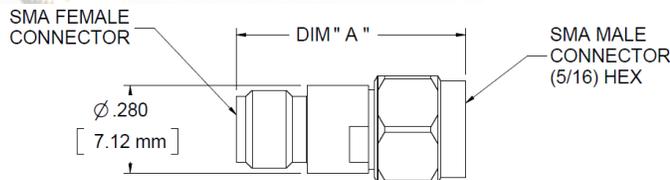
PRECISION ATTENUATOR SET

1 Each WA4C-3, WA4C-6, WA4C-10, WA4C-20

WAS4C

DC – 18.0 GHz

2 WATTS



Features

The model WAS4C comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS4C consists of 4 calibrated model WA4C attenuators, 3, 6, 10, and 20 dB. The following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 18.0 GHz.

✦ R.F Calibration Option -890: 100, 500, 1,000 and every 500 MHz to 26,500; 26,500 to 40,000 every 250 MHz.

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125° C, **250 W** peak (5µsec pulse width, 0.4% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum Deviation From Nominal Value (including frequency sensitivity):

Attenuation (dB)	Accuracy ± dB
	WA4C
3, 6	0.3
10, 20	0.5

Maximum VSWR:

Frequency (GHz)	VSWR
	WA4C
DC - 4.0	1.15
4.0 - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Individual Dimensions:

Attenuation (dB)	WA4C	
	Length (Dim "A")	Weight
3, 6, 10	19.3 (0.76)	3.9 (.14)
20	22.6 (0.89)	4.3 (.15)

Body Diameter: 7.12 (2.80)

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts, stainless steel male contacts. RoHS Compliant

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

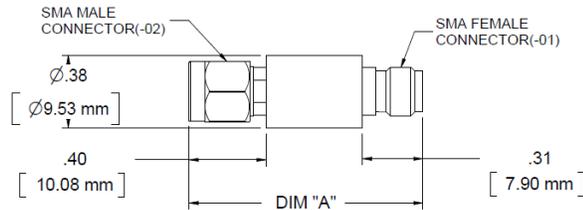
PRECISION ATTENUATOR SET

1 Each WA4M-3, WA4M-6, WA4M-10, WA4M-20

WAS4M

DC – 18.0 GHz

2 WATTS



Features

The model WAS4M comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS4M consists of 4 calibrated model WA4M attenuators, 3, 6, 10, and 20 dB. The following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 18.0 GHz.

✦ R.F Calibration Option -890: 100, 500, 1,000 and every 500 MHz to 26,500; 26,500 to 40,000 every 250 MHz.

Type SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 18.0 GHz.

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: 2 W average to 25°C ambient temperature, de-rated linearly to 1.25 watts at 75°C and 0.5W at 125° C, 500 W peak (5µsec pulse width, 0.2% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum Deviation From Nominal Value (including frequency sensitivity):

Attenuation (dB)	Accuracy ± dB
	WA4M
3, 6, 10	0.5
20	0.7

Maximum VSWR:

Frequency (GHz)	VSWR
	WA4M
DC - 4.0	1.15
4.0 - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.35

Individual Dimensions:

Attenuation (dB)	WA4M	
	Length (Dim "A")	Weight
3, 6, 10	31.2 (1.23)	3.9 (.14)
20	33.3 (1.31)	4.3 (.15)

Body Diameter: 9.53 (0.38)

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts, stainless steel male contacts. RoHS Compliant

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

PRECISION ATTENUATOR SET

1 Each WA2-3, WA2-6, WA2-10, WA2-20

WAS6

DC – 18.0 GHz

5 WATTS



Features

The model WAS6 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS6 consists of 4 calibrated model WA2 attenuators, 3, 6, 10, and 20 dB. The following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 18.0 GHz. (18 frequencies)

⊕ R.F Calibration Option -890 (42 frequencies) 100, 500, 1,000 and every 500 MHz to 16,000; 16,000 to 18,000 every 250 MHz.

These attenuators are designed to meet environmental tests of MIL-A-3933.

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

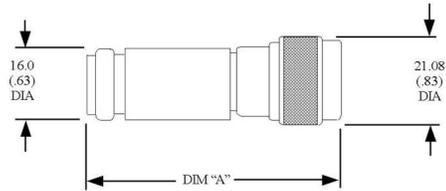
Frequency Range: DC - 18.0 GHz.

Power Coefficient: <0.005 dB/dB/W. Bidirectional in power.

Power Rating: 5 W average. Maximum rated average power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C. 1 kW peak (5 µsec pulse width; 0.25% duty cycle).

Temperature Range: -55°C to +125°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.



Maximum Deviation From Nominal Value (including frequency sensitivity):

Attenuation (dB)	Accuracy ± dB
	WA2
3, 6	0.3
10, 20	0.5

Maximum VSWR

Frequency (GHz)	VSWR
	WA2
DC - 4.0	1.15
4.0 - 8.0	1.2
8.0 - 12.4	1.25
12.4 - 18.0	1.4

Individual Dimensions:

Length (Dim "A"): 57.2 (2.25)
 Weight: 70 (2.6)
 Diameter: 16 (0.63)

Case Dimensions: 4 ¾ in. (120.6 mm) long x 4 ½ in. (114.3 mm) wide x 2 ¾ in. (44.5 mm) high.

Weight: Net 1 lb., 13 oz. (0.82 kg); Shipping weight, 3 lbs. (1.36 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

WEINSCHEL ASSOCIATES

TEL: 877.948.8342 / 301.963.4630 ♦ Fax: 301.963.8640

WEB: <http://www.WeinschelAssociates.com>

EMAIL: sales@WeinschelAssociates.com



208

Rev -

Specification
Subject to change
without notice

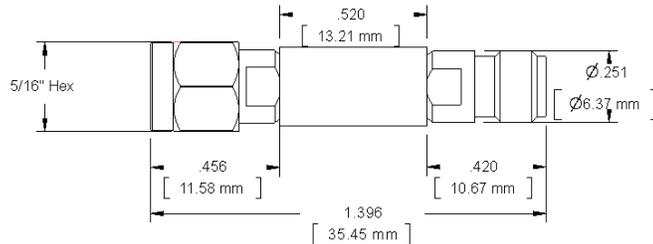
PRECISION ATTENUATOR SET

1 Each WA54-3, WA54-6, WA54-10, WA54-20

WAS54

DC - 40 GHz

2 WATTS



Features

The model WAS54 comes complete with Certificate of Calibration and hardwood protective case for storing your attenuators. The WAS54 consists of 4 calibrated model WA54 attenuators, 3, 6, 10, and 20 dB. The following data for each attenuator are provided.

3 DC resistance values and insertion loss every 1.0 GHz from DC through 40.0 GHz.

✿ R.F Calibration Option -890: 100, 500, 1,000 and every 500 MHz to 26,500; 26,500 to 40,000 every 250 MHz.

Precision 2.92mm stainless steel M/F connectors per MIS-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: DC - 40 GHz.

Power Coefficient: < 0.005 dB/dB/W;
Bidirectional in power.

Power Rating: **2 W** average to 25°C ambient temperature, de-rated linearly to 0.1W at 100° C, **200 W** peak (5 µsec pulse width, 0.5% duty cycle).

Temperature Range: -55°C to +100°C.

Temperature Coefficient: < 0.0004 dB/dB/°C.

Maximum Deviation From Nominal Value:

Attenuation (dB)	Accuracy ± dB	
	DC to 26.5	26.5 to 40.0
3, 6	0.5	1.0
10, 20	1.0	1.0

Maximum VSWR:

Frequency (GHz)	VSWR
DC - 26.5	1.25
26.5 - 40.0	1.45

Individual Dimensions:

Length: 36.0 (1.42)
Body Diameter: 7.1 (.28)
Weight: .008 (.28)

Case Dimensions: 5 ½ in. (139.7 mm) long x 4 7/8 in. (123.8 mm) wide x 2 3/8 in. (60.3 mm) high.

Weight: Net 1 lb., 4 oz. (0.56 kg); Shipping weight, 2 lbs. 8 oz. (1.14 kg)

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC BLOCKS

9 kHz – 40 GHz

50—200 VOLTS

DC Blocks (Inner Only)

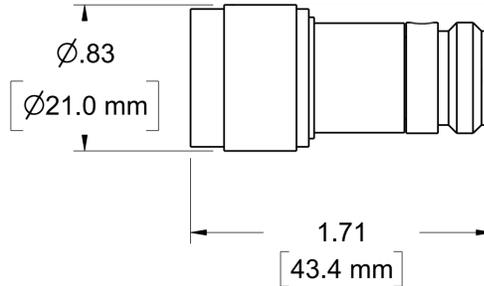
Model Number	Frequency Range	Insertion Loss (dB, max)	VSWR (max)	Working Voltage (V)	Connectors	Page No.
WA6043	9 kHz to 18 GHz	0.9	1.35	50	N	211
WA6046/6	10 MHz to 6 GHz	0.8	1.4	50	N	212
WA6055H/6	10 MHz to 6 GHz	0.8	1.4	50	SMA	213
WA7046/6	10 MHz to 6 GHz	0.8	1.5	100	N	217
WA7055H/6	10 MHz to 6 GHz	0.8	1.4	100	SMA	218
WA8046/6	10 MHz to 6 GHz	0.8	1.4	200	N	219
WA8055H/6	10 MHz to 6 GHz	0.8	1.4	200	SMA	220
WA6046/12	10 MHz to 12.4 GHz	0.8	1.5	50	SMA	212
WA6055H/12	10 MHz to 12.4 GHz	0.8	1.5	50	SMA	213
WA7046/12	10 MHz to 12.4 GHz	0.8	1.5	100	SMA	217
WA7055H/12	10 MHz to 12.4 GHz	0.8	1.5	100	SMA	218
WA8046/12	10 MHz to 12.4 GHz	0.8	1.5	200	N	219
WA8055H/12	10 MHz to 12.4 GHz	0.8	1.5	200	SMA	220
WA6046	10 MHz to 18 GHz	0.8	1.5	50	N	212
WA6055H	10 MHz to 18 GHz	0.8	1.5	50	SMA	213
WA7046	10 MHz to 18 GHz	0.8	1.5	100	N	217
WA7055H	10 MHz to 18 GHz	0.8	1.5	100	SMA	218
WA8046	10 MHz to 18 GHz	0.8	1.5	200	N	219
WA8055H	10 MHz to 18 GHz	0.8	1.5	200	SMA	220
WA6055H/26	10 MHz to 26 GHz	1.0	1.55	50	SMA	213
WA6056H	9 kHz to 26.5 GHz	0.8	1.7	50	SMA	214
WA6057H	9 kHz to 30 GHz	1.0	1.7	50	3.5 mm	215
WA6058H	9 kHz to 40 GHz	1.0	1.7	50	2.92 mm	216

DC Blocks (Outer Only)

Model Number	Frequency Range	Insertion Loss (dB, max)	VSWR (max)	Working Voltage (V)	Connectors	Page No.
WA8038	10 MHz to 18 GHz	0.5	1.35	200	SMA	221

DC Block (Inner/Outer)

Model Number	Frequency Range	Insertion Loss (dB, max)	VSWR (max)	Working Voltage (V)	Connectors	Page No.
WA8039	10 MHz to 18 GHz	0.5	1.35	200	SMA	222



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate non-destructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Low cut-in frequency, usable to 22 GHz.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: 9 kHz - 18 GHz

Voltage: 50 volts

Power Rating: **20 W** maximum average rated power to 25°C ambient temperature, de-rated linearly to 0.5 W at 125°C (Bidirectional). **100 W** peak power.

Temperature Range: -65°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency	VSWR
	WA6043
9 kHz - 11 kHz	1.5
11 kHz - 18 GHz	1.35

Maximum Insertion Loss:

Frequency	Insertion Loss (dB)
	WA6043
9 kHz - 18 GHz	0.9

Dimensions:

Length:	43.4 (1.71)
Diameter:	21.0 (0.83)
Weight:	70 (2.6)

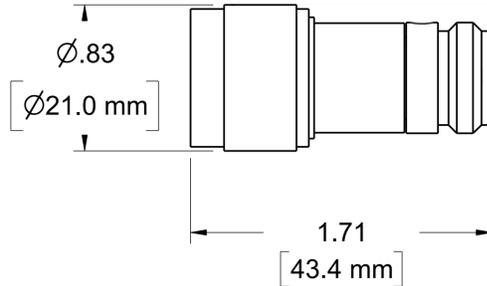
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA6046

WA6046/6: 10 MHz – 6.0 GHz
WA6046/12: 10 MHz – 12.4 GHz
WA6046: 10 MHz – 18.0 GHz

50 VOLTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Inner only– 6.0/12.4/18.0 GHz N-Type DC Block.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA6046: 10 MHz - 18.0 GHz.
WA6046/6: 10 MHz - 6.0 GHz.
WA6046/12: 10 MHz - 12.4 GHz.

Voltage: 50 volts

Power Rating: 5 W maximum average rated power to 25°C ambient temperature (Bidirectional).

Temperature Range: -65°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA6046	WA6046/6	WA6046/12
0.01 - 1.0	1.2	1.2	1.2
1.0 - 4.0	1.3	1.3	1.3
4.0 - 8.0	1.4	1.4	1.4
8.0 - 18.0	1.5	N/A	1.5

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss (dB)		
	WA6046	WA6046/6	WA6046/12
0.01 - 1.0	0.25	0.25	0.25
1.0 - 4.0	0.5	0.5	0.5
4.0 - 8.0	0.8	0.8	0.8
8.0 - 18.0	0.8	N/A	0.8

Dimensions and Weight:

Length: 43.4 (1.71)
Diameter: 21.0 (0.83)
Weight: 70 (2.6)

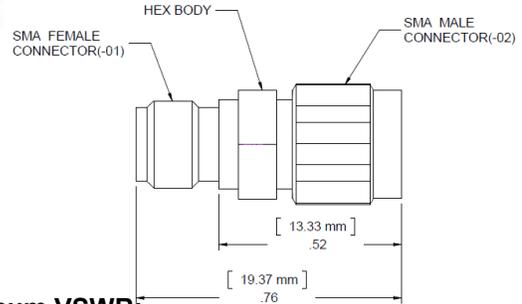
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA6055H

WA6055H/6: 10 MHz – 6.0 GHz
 WA6055H/12: 10 MHz – 12.4 GHz
 WA6055H: 10 MHz – 18.0 GHz
 WA6055H/26: 10 MHz – 26.0 GHz

50 VOLTS



Maximum VSWR:

Frequency (GHz)	VSWR			
	WA6055H	WA6055H /6	WA6055H /12	WA6055H /26
0.01 - 1.0	1.2	1.2	1.2	1.2
1.0 - 4.0	1.3	1.3	1.3	1.3
4.0 - 8.0	1.4	1.4	1.4	1.4
8.0 - 18.0	1.5	N/A	1.5	1.5
18.0 - 26.0	N/A	N/A	N/A	1.55

Features

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Inner Only– 6.0/12.4/18.0/26.0 GHz SMA DC Block. 5/16 hex provides a secure torquing surface.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range:

- WA6046: 10 MHz - 18.0 GHz.
- WA6046/6: 10 MHz - 6.0 GHz.
- WA6046/12: 10 MHz - 12.4 GHz.
- WA6046/26: 10 MHz - 26.0 GHz.

Voltage: 50 volts

Power Rating: 2 W maximum average rated power to 25°C ambient temperature.

Temperature Range: -65°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss (dB)			
	WA6055H	WA6055H /6	WA6055H /12	WA6055H /26
0.01 - 1.0	0.25	0.25	0.25	0.25
1.0 - 4.0	0.5	0.5	0.5	0.5
4.0 - 8.0	0.8	0.8	0.8	0.8
8.0 - 18.0	0.8	N/A	0.8	0.8
18.0 - 26.0	N/A	N/A	N/A	1.0

Dimensions:

Length: 19.37 (0.76)
 Weight: 4 (0.14)

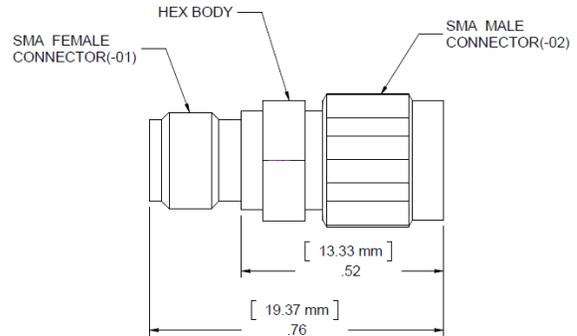
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA6056H

9 kHz – 26.5 GHz

50 VOLTS



Features

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

5/16 hex provides secure torquing surface for mating in hard to get places. Low cut-in frequency.

Inner DC block combined with high frequency response.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: 9 kHz - 26.5 GHz

Voltage: 50 volts

Power Rating: 20 W maximum average rated power to 25°C ambient temperature. 100 W peak power.

Temperature Range: -45°C to + 105°C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant .

Maximum VSWR:

Frequency	VSWR
	WA6056H
9 kHz - 10 kHz	1.45
10 kHz - 20 kHz	1.35
20 kHz - 18.0 GHz	1.35
18.0 GHz - 26.5 GHz	1.7

Maximum Insertion Loss:

Frequency	Insertion Loss (dB)
	WA6056H
9 kHz - 26.5 GHz	0.8

Dimensions:

Length: 19.37 (0.76)
Weight: 4 (0.14)

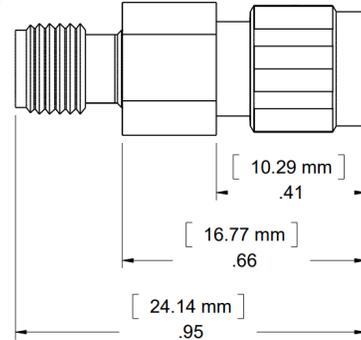
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA6057H

9 kHz – 30.0 GHz

50 VOLTS



Features

3.5 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

5/16 hex provides secure torquing surface for mating in hard to get places.

Inner DC block combined with high frequency response.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: 9 kHz - 30.0 GHz

Voltage: 50 volts

Power Rating: 20 W maximum average rated power to 25°C ambient temperature. 100 W peak power.

Temperature Range: -65°C to + 105°C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency	VSWR
	WA6057H
9 kHz - 10 kHz	1.45
10 kHz - 20 kHz	1.35
20 kHz - 18.0 GHz	1.35
18.0 GHz - 30.0 GHz	1.7

Maximum Insertion Loss:

Frequency	Insertion Loss (dB)
	WA6057H
9 kHz - 30.0 GHz	1.0

Dimensions:

Length: 24.2 (0.95)
Weight: 0.004 (0.14)

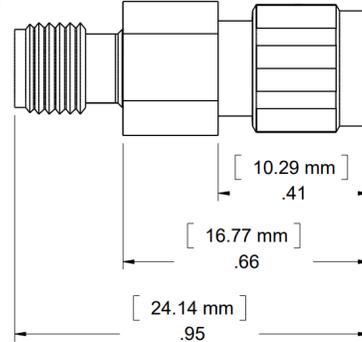
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA6058H

9 kHz – 40.0 GHz

50 VOLTS



Features

Precision 2.92 mm stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

5/16 hex provides secure torquing surface for mating in hard to get places.

Inner DC block combined with high frequency response.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: 9 kHz - 40.0 GHz

Voltage: 50 volts

Power Rating: 20 W maximum average rated power to 25°C ambient temperature. 100 W peak power.

Temperature Range: -65°C to + 105°C

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency	VSWR
	WA6058H
9 kHz - 10 kHz	1.45
10 kHz - 20 kHz	1.4
20 kHz - 18.0 GHz	1.4
18.0 GHz - 40.0 GHz	1.7

Maximum Insertion Loss:

Frequency	Insertion Loss (dB)
	WA6058H
9 kHz - 30.0 GHz	1.0

Dimensions:

Length: 24.2 (0.95)
Weight: 0.004 (0.14)

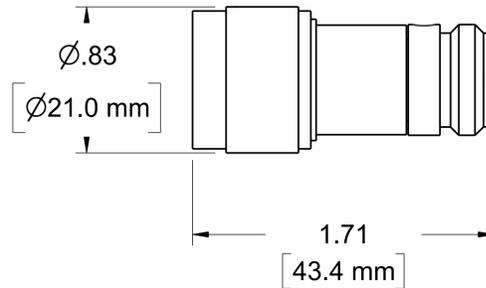
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA7046

WA7046/6: 10 MHz – 6.0 GHz
WA7046/12: 10 MHz – 12.4 GHz
WA7046: 10 MHz – 18.0 GHz

100 VOLTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Inner only– 6.0/12.4/18.0 GHz N-Type DC Block.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA7046: 10 MHz - 18.0 GHz.
WA7046/6: 10 MHz - 6.0 GHz.
WA7046/12: 10 MHz - 12.4 GHz.

Voltage: 100 volts

Power Rating: 5 W maximum average rated power to 25°C ambient temperature (Bidirectional).

Temperature Range: -65°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA7046	WA7046/6	WA7046/12
0.01 - 1.0	1.2	1.2	1.2
1.0 - 4.0	1.3	1.3	1.3
4.0 - 8.0	1.4	1.4	1.4
8.0 - 18.0	1.5	N/A	1.5

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss (dB)		
	WA7046	WA7046/6	WA7046/12
0.01 - 1.0	0.25	0.25	0.25
1.0 - 4.0	0.5	0.5	0.5
4.0 - 8.0	0.8	0.8	0.8
8.0 - 18.0	0.8	N/A	0.8

Dimensions:

Length: 43.4 (1.71)
Diameter: 21.0 (0.83)
Weight: 70 (2.6)

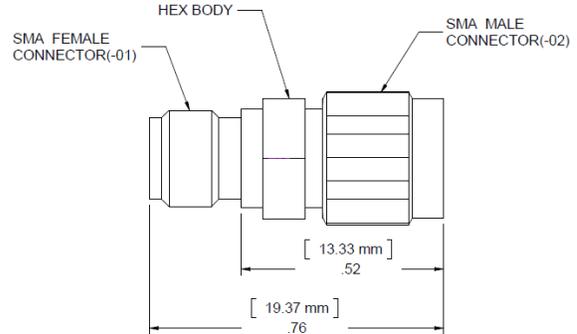
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA7055H

WA7055H/6: 10 MHz – 6.0 GHz
 WA7055H/12: 10 MHz – 12.4 GHz
 WA7055H: 10 MHz – 18.0 GHz

100 VOLTS



Features

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Inner Only– 6.0/12.4/18.0 GHz SMA DC Block.

5/16 hex provides secure torquing surface.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA7055H: 10 MHz - 18.0 GHz.
 WA7055H/6: 10 MHz - 6.0 GHz.
 WA7055H/12: 10 MHz - 12.4 GHz.

Voltage: 100 volts

Power Rating: 2 W maximum average rated power to 25°C ambient temperature.

Temperature Range: -65°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA7055H	WA7055H/6	WA7055H/12
0.01 - 1.0	1.2	1.2	1.2
1.0 - 4.0	1.3	1.3	1.3
4.0 - 8.0	1.4	1.4	1.4
8.0- 18.0	1.5	N/A	1.5

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss (dB)		
	WA7055H	WA7055H/6	WA7055H/12
0.01 - 1.0	0.25	0.25	0.25
1.0 - 4.0	0.5	0.5	0.5
4.0 - 8.0	0.8	0.8	0.8
8.0- 18.0	0.8	N/A	0.8

Dimensions:

Length: 19.37 (0.76)
 Weight: 4 (0.14)

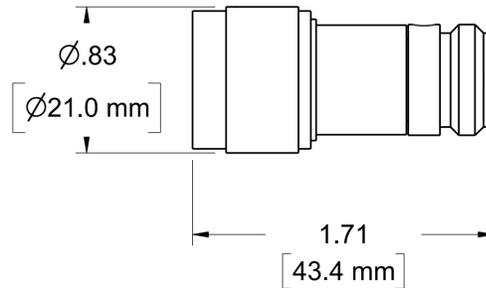
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA8046

WA8046/6: 10 MHz – 6.0 GHz
WA8046/12: 10 MHz – 12.4 GHz
WA8046: 10 MHz – 18.0 GHz

200 VOLTS



Features

Type N stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Inner only– 6.0/12.4/18.0 GHz N-Type DC Block.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA8046: 10 MHz - 18.0 GHz.
WA8046/6: 10 MHz - 6.0 GHz.
WA8046/12: 10 MHz - 12.4 GHz.

Voltage: 200 volts

Power Rating: 5 W maximum average rated power to 25°C ambient temperature (Bidirectional).

Temperature Range: -65°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA8046	WA8046/6	WA8046/12
0.01 - 1.0	1.2	1.2	1.2
1.0 - 4.0	1.3	1.3	1.3
4.0 - 8.0	1.4	1.4	1.4
8.0 - 18.0	1.5	N/A	1.5

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss (dB)		
	WA8046	WA8046/6	WA8046/12
0.01 - 1.0	0.25	0.25	0.25
1.0 - 4.0	0.5	0.5	0.5
4.0 - 8.0	0.8	0.8	0.8
8.0 - 18.0	0.8	N/A	0.8

Dimensions:

Length: 43.4 (1.71)
Diameter: 21.0 (0.83)
Weight: 70 (2.6)

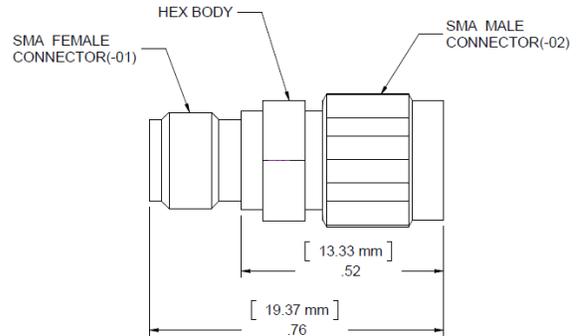
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA8055H

WA8055H/6: 10 MHz – 6.0 GHz
 WA8055H/12: 10 MHz – 12.4 GHz
 WA8055H: 10 MHz – 18.0 GHz

200 VOLTS



Features

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Inner Only– 6.0/12.4/18.0 GHz SMA DC Block. 5/16 hex provides secure torquing surface for mating in hard to get places.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: WA8055H: 10 MHz - 18.0 GHz.
 WA8055H/6: 10 MHz - 6.0 GHz.
 WA8055H/12: 10 MHz - 12.4 GHz.

Voltage: 200 volts

Power Rating: 2 W maximum average rated power to 25°C ambient temperature (Up to 10 W).

Temperature Range: -65°C to +125°C.

Construction: Passivated stainless steel body and connectors. Gold plated beryllium copper contacts. RoHS Compliant

Maximum VSWR:

Frequency (GHz)	VSWR		
	WA8055H	WA8055H/6	WA8055H/12
0.01 - 1.0	1.2	1.2	1.2
1.0 - 4.0	1.3	1.3	1.3
4.0 - 8.0	1.4	1.4	1.4
8.0- 18.0	1.5	N/A	1.5

Maximum Insertion Loss:

Frequency (GHz)	Insertion Loss (dB)		
	WA8055H	WA8055H/6	WA8055H/12
0.01 - 1.0	0.25	0.25	0.25
1.0 - 4.0	0.5	0.5	0.5
4.0 - 8.0	0.8	0.8	0.8
8.0- 18.0	0.8	N/A	0.8

Dimensions:

Length: 19.37 (0.76)
 Weight: 4 (0.14)

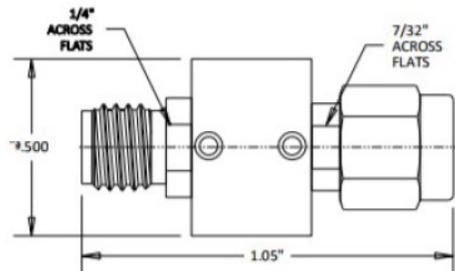
Note: Dimensions are given in mm (in), or g (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA8038

10 MHz – 18.0 GHz

200 VOLTS



Features

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Outer DC Block combined with high frequency response. Bi-directional.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: 10 MHz - 18.0 GHz.

Voltage: 200 volts

Temperature Range: -55°C to +105°C.

Construction: Passivated stainless steel connectors, PEEK body. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR: 1.35

Maximum Insertion Loss: 0.5 dB

Dimensions:

Length:	38.1 (1.05)
Diameter:	12.7 (0.5)
Weight:	0.004 (0.14)

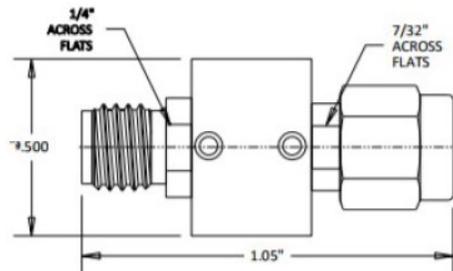
Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

DC Block

WA8039

10 MHz – 18.0 GHz

200 VOLTS



Features

SMA stainless steel M/F connectors per MIL-STD-348A, interface dimensions mate nondestructively with MIL-PRF-39012. Designed to meet MIL-DTL-3933 environmental specification.

Inner/Outer DC Block combined with high frequency response. Bi-directional.

Specifications

Nominal Impedance: 50 ohms.

Frequency Range: 10 MHz - 18.0 GHz.

Voltage: 200 volts

Temperature Range: -55°C to +105°C.

Construction: Passivated stainless steel connectors, PEEK body. Gold plated beryllium copper contacts. RoHS Compliant.

Maximum VSWR: 1.35

Maximum Insertion Loss: 0.5 dB

Dimensions:

Length:	38.1 (1.05)
Diameter:	12.7 (0.5)
Weight:	0.004 (0.14)

Note: Dimensions are given in mm (in), or kg (oz). Weight figure is nominal, with our standard connector configuration. Additional connector options may be available.

High-Reliability and Environment Qualified Components

Introduction

Ruggedness and reliability have been designed in across our product lines and proven in the field. This section of our catalog provides a brief overview of our capabilities and a sample of our products that have undergone formal qualification testing.

Designed In

All of our connector interfaces have been designed for compliance to MIL-PRF-39012 and MIL-STD-348A standards. The materials and construction techniques employed are targeted towards compliance with MIL-DTL-3933 (Fixed Attenuators), MIL-DTL-24215 (Variable Attenuators), or MIL-DTL-39030 (Terminations) standards as applicable.

Proven Out

Our products have undergone qualification and screening tests for a variety of environments including:

- Naval Shipboard
- Aircraft, Fixed Wing and Rotary Wing
- Satellite and low out-gassing environments

Standard testing is performed using MIL-STD-202 and MIL-STD-810 methodologies as applicable either at our facility in Mt Airy, Maryland, or at a certified environmental test lab.

Sample of High-Reliability/Qualified Products				
Model Number	Product Type	Frequency Range (GHz)	Connectors	Page No.
WA32	Attenuator	DC-18	SMA	213

ORDERING INFORMATION

HOW TO ORDER: Please order by both catalogue number and description of the component to avoid confusion. Special features and configurations not listed in this catalogue may be available. Please contact the factory regarding any non-standard features.

WHERE TO ORDER: Address all purchase orders and other communication to:

Weinschel Associates

2505 Back Acre Circle, Mt Airy, MD 21771

Phone: 877.948.8342/301.963.4630

Fax: 301.963.8640

e-mail: sales@weinschelassociates.com

DOMESTIC TERMS: Formal price quotations remain in effect for 60 days unless otherwise stated. Standard payment terms for approved customers are Net 30 days. Where credit has not been established, payment must be arranged prior to shipment or COD. All pricing is FOB Gaithersburg, Maryland unless otherwise stated and includes commercial inspection and packaging for shipment. **All major credit cards are accepted.**

EXPORT TERMS: Payment terms are cash in advance or irrevocable Letter of Credit payable through a bank to be specified by Weinschel Associates. All prices are in US Dollars, FOB Gaithersburg, Maryland. All bank charges are to be paid by the customer.

SOURCE INSPECTION: When source inspection is required, an additional charge of either \$100 or two (2%) of the purchase order value will be levied, whichever is greater.

CERTIFICATES OF COMPLIANCE: A Certificate of Compliance is shipped with every order along with the packing slip. Extra copies are available upon request at any time.

TEST DATA: Comprehensive test data is available for an extra charge. Weinschel Associates tests 100% of its shipped product against published specifications. Data is retained when required by the customer.

TECHNICAL CONSULTATION: Our engineering department is available for informal and formal consultation on technical, calibration, and service issues. Call or e-mail the factory.

WARRANTY REPAIRS: In the event of a problem with an item, please contact the factory. If a return is necessary, a Return Material Authorization (RMA) number will be provided by which the returned item will be identified and repaired or replaced. Please provide complete details of the complaint along with contact and shipping information for the items return.

NON-WARRANTY REPAIRS: If return of an item is desired for non-warranty repair and/or calibration, please contact the factory. A Return Material Authorization (RMA) number will be provided by which the returned item will be identified. Upon receipt, an evaluation of the item will be performed and the price to repair or recalibrate will be provided for approval (unless pre-approved). Weinschel Associates furnishes full warranty on all repairs for 90 days following shipment.

SHIPPING INSTRUCTIONS: Weinschel Associates will use best judgment and best method shipping for your items. Special instructions will be followed.

SPECIFICATION CHANGES: Changes to specifications may occur at any time without notification and without any obligation to Weinschel Associates to revise previously sold items. We reserve the right to discontinue any item without notice.

CANCELLATIONS AND RETURNS: Order cancellation must be authorized by Weinschel Associates and the customer may incur a cancellation charge. All returns are subject to a restocking charge dependent upon elapsed time.

MAJOR CREDIT CARDS ACCEPTED

