

Terminations & Loads



- /// dc to 50 GHz, up to 1,000 Watts
- /// Choice of frequency ranges, attenuation value and power level.
- /// **Express** shipment available on most models.
- /// Consistent, repeatable performance.
- /// High reliability.
- /// Rugged injection molded connectors.
- /// Low Intermodulation (LIM) versions available
- /// Custom performance and connector options available.

General Information

In this section of the catalog, each Termination is outlined utilizing individual data sheets containing product features, specifications, and outline drawings. These data sheets are preceded by a quick reference guide to help you select the Termination(s) that fits your needs. The page number for each Termination data sheet is given in the quick reference guide.












Aeroflex / Weinschel offers a full line of coaxial terminations and loads. Our terminations and loads can be found in almost every phase of microwave industry from simple directional coupler port termination to the design measurement and wireless communications systems.

NOTE: **EXPRESS** Shipment available via www.argosysales.com or 800-542-4457. Check with distributor for current products and stocking quantities.



Terminations . . . dc-50 GHz, 1 to 5 Watts
















Model Number	Frequency Range (GHz)	Average Power (Watts)	Peak Power (kW)	SWR	Connector Type	Page No.	
♦ 1404N	dc-18.0	1	1	1.02-1.08*	N	91	
♦ 1406A ♦ 1408	dc-18.0	2	0.5	1.05-1.21* 1.04-1.15*	SMA	93	
♦ RS3016	dc-18.0	1	0.25	1.05-1.20*	SMA (Male only)	90	
♦ 1424	dc-12.4	5	5	1.03-1.30*	N	97	
♦ F1437RA M1437RA	dc-6.0	2	0.25	1.05-1.10* 1.15-1.20*	SMA (Female) SMA (Male)	90	
♦ 1443A	dc-18.0	5	0.5	1.20	2.92mm	98	
1445A	dc-40.0	5	0.2	1.20-1.35*	2.92mm	99	
♦ 1455	dc-18.0	2	1	1.20-1.30*	N	93	
♦ 1459/A	dc-40.0	2	0.5	1.10-1.25*	2.92mm	95	
1460/A	dc-50.0	2	0.5	1.10-1.22*	2.4mm	96	
1465/A	dc-32.0	2	0.5	1.06-1.15*	3.5mm	97	

* VARIES WITH FREQUENCY.

- ♦ **EXPRESS** Shipment available via www.argosysales.com or 800-542-4457.
Note: Other models may also be available from Express delivery.

Medium Power . . . dc-26.5 GHz, 10 to 50 Watts





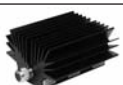









Model Number	Frequency Range (GHz)	Average Power (Watts)	Peak Power (kW)	SWR	Connector Type	Page No.	
♦ 1418	dc-18.0	10	1	1.15-1.40*	N	103	
♦ 1419	dc-18.0	10	1	1.20-1.35*	SMA	100	
♦ 1425	dc-12.4	10	1	1.03-1.40*	N	102	
♦ 1426	dc-8.5	50	5	1.20-1.30*	SMK (2.92mm) / N	111	
♦ 1427	dc-10.0	25	5	1.10-1.30*	SMK (2.92mm) / N	105	
♦ 1429	dc-18.0	25	1	1.20	N / 3.5mm	106	
♦ 1430	dc-18.0	50	1	1.15-1.30*	N / 3.5mm	112	
♦ 1444	dc-26.5	25	0.5	1.25	3.5mm	108	
1446	dc-6.0	25	5	1.20	7/16	105	
1447	dc-6.0	50	5	1.20	7/16	110	
♦ 1452	dc-4.0	25	5	1.10-1.20*	SMK (2.92mm) / N	109	
♦ 1453	dc-8.5	10	1	1.15-1.25*	N	101	
1467	dc-20.0	50	1	1.15-1.20*	3.5mm / N	113	
1468 <i>New</i>	dc-3.0	50	1		BNC / SMA N	109	

* VARIES WITH FREQUENCY.

- ♦ **EXPRESS** Shipment available via www.argosysales.com or 800-542-4457.
Note: Other models may also be available from Express delivery.

High Power . . . dc-18 GHz, 100-1000 Watts




Model Number	Frequency Range (GHz)	Average Power (Watts)	Peak Power (kW)	SWR	Connector Type	Page No.	
♦ 1428	dc-1.5	150	10	1.10-1.15*	N	119	
♦ 1431	dc-18.0	100	1	1.20-1.30*	N / 3.5mm	116	
1432	dc-8.5	150	5	1.20-1.30*	N	121	
♦ 1433	dc-5.0	250	10	1.10-1.15*	N	122	
♦ 1434	dc-2.5	500	10	1.10	N	123	
♦ 1435	dc-5.0	150	10	1.10-1.15*	N	119	
♦ 1439	dc-2.5	150	10	1.20	N	118	
♦ 1440	dc-4.0	100	10	1.15	N	114	
1442	dc-8.5	100	5	1.20-1.30*	N	116	
1448	dc-6.0	150	10	1.25	7/16	119	
1456	dc-3.0	1,000	10	1.15-1.25*	N	124	
1469 <i>New</i>	dc-18.0	100	1		N / 3.5mm	117	

* VARIES WITH FREQUENCY.

- ♦ **EXPRESS** Shipment available via www.argosysales.com or 800-542-4457.
Note: Other models may also be available from Express delivery.


Low IMD . . . dc-20 GHz, 25 to 500 Watts

Model Number	Frequency Range (GHz)	Average Power (Watts)	Peak Power (kW)	SWR	Connector Type	Page No.	
1426-X-LIM	dc-8.5	50	5	1.20-1.30*	SMK (2.92mm) / N	111	
1427-X-LIM	dc-10.0	25	5	1.10-1.15*	SMK (2.92mm) / N	106	
1429-X-LIM	dc-18.0	25	1	1.20	N / 3.5mm	107	
1430-X-LIM	dc-18.0	50	1	1.15-1.30*	N / 3.5mm	112	
1431-X-LIM	dc-18.0	100	1	1.20-1.30*	N / 3.5mm	116	
1435-X-LIM	dc-5.0	150	5	1.10-1.15*	N	119	
1432-X-LIM	dc-8.5	150	5	1.20-1.30*	N	121	
1433-X-LIM	dc-5.0	250	10	1.10-1.15*	N	122	
1434-X-LIM	dc-2.5	500	10	1.10	N	123	
1467-X-LIM <i>New</i>	dc-20.0	50	1	1.15-1.20*	3.5mm / N	112	
1469-X-LIM <i>New</i>	dc-18.0	100	1	1.15-1.20	N / 3.5mm	117	
1470-X-LIM <i>New</i>	dc-6	100	1	1.20	SMK (2.92mm) / N	127	
1471-X-LIM <i>New</i>	dc-6	250	1	1.20	SMK (2.92mm) / N	128	
1472-X-LIM <i>New</i>	dc-6	400	1	1.20	SMK (2.92mm) / N	129	
1473-X-LIM <i>New</i>	dc-6	550	1	1.20	SMK (2.92mm) / N	130	

Convection Cooled . . . dc-22 GHz, 50-550 Watts

Model Number	Frequency Range (GHz)	Average Power (Watts)	Peak Power (kW)	SWR	Connector Type	Page No.	
♦ 1441	dc-4.0	50	5	1.15	N	126	
1458	dc-22.0	50	1	1.30	3.5mm	127	
1470 <i>New</i>	dc-6.0	100	1	1.20	SMK (2.92mm) / N	128	
1471 <i>New</i>	dc-6.0	250	1	1.20	SMK (2.92mm) / N	129	
1472 <i>New</i>	dc-6.0	400	1	1.20	SMK (2.92mm) / N	130	
1473 <i>New</i>	dc-6.0	550	1	1.20	SMK (2.92mm) / N	131	
1474 <i>New</i>	dc-40.0	5	1	1.25-1.45	SMK (2.92mm)	125	

Open / Short / Load...dc-2.0 GHz

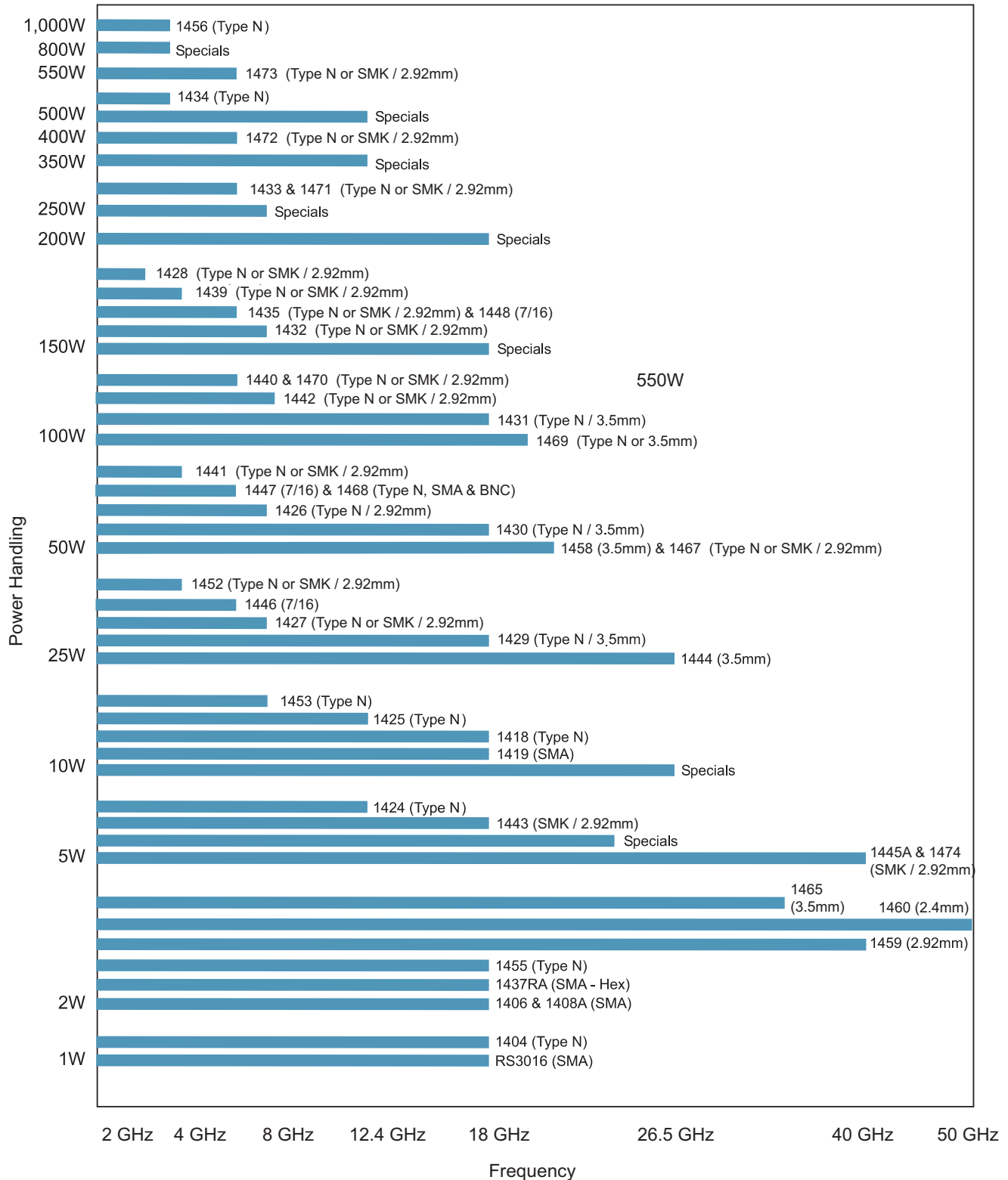
Model Number	Frequency Range (GHz)	Connector Type	Maximum SWR	Maximum Phase Tracking (Short / Open) (±)	Average Input Power (W)	Page No.	
1591	dc-2.0	TNC (f)	1.05 - 1.35*	3° - 7° *	1	170	

(f) denotes female & (m) denotes male.

* Varies with Frequency.

- ♦ **EXPRESS** Shipment available via www.argosysales.com or 800-542-4457.
Note: Other models may also be available from Express delivery.

Coaxial Terminations & Loads....



Termination Selection Guide: Power Handling / Frequency / Connector Type

Frequently Ask Questions about Coaxial Terminations....

What are the advantages of Aeroflex / Weinschel's terminations?

Most Aeroflex / Weinschel coaxial terminations feature a combination of advantages over other designs:

1. Most Aeroflex / Weinschel terminations feature injection molded dielectric for better center pin captivation and alignment. Injection molded dielectric also eliminates the need for the epoxy hole "stake" as seen in other designs. This epoxy hole in other designs is subject to RF leakage and movement when exposed to environmental extremes and prolonged use.
2. Aeroflex / Weinschel coaxial terminations have a proprietary resistor element fired at high temperatures (950°) for superior long term stability over temperature, power and time.
3. Aeroflex / Weinschel coaxial terminations have no solder contacts. They feature spring loaded plunger contacts to the resistor cards that provide expansion tolerant operation over wide temperature and power ranges.
4. Aeroflex / Weinschel terminations are made with high quality materials and machined to very close tolerances, the result is a design that stands up to severe environments and usage.
5. High power designs feature special high temperature support beads.

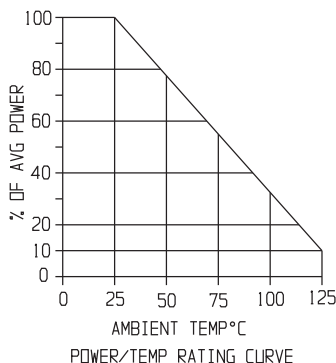
Can Aeroflex / Weinschel provide special terminations?

Yes. Aeroflex / Weinschel has produced many custom fixed attenuators and terminations. Specialized designs continue to be a significant part of Aeroflex / Weinschel's product offering. Special features may include:

1. Custom Connector Configurations
2. Matched Pairs or Sets
3. Lower VSWR
4. Conductive Cooled
5. Special Mounting & Environmental Conditions

How is the power rating calculated?

A termination will handle specified power at ambient temperatures as specified in the catalog. No special fan cooling is required. At higher temperatures the power rating

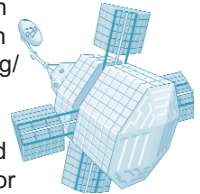


is calculated by using catalog specifications and a straight line graph. For instance the power rating of the Model 1430 attenuator is 100 watts at 25°C ambient and 10 watts at 125°C. Using linear graph paper, plot a straight line between these two points. This plot shows that the power rating at 75°C is approximately 56 Watts.

Can Aeroflex / Weinschel provide terminations for space applications?

Yes. Aeroflex / Weinschel terminations are being used on most major U.S. military and commercial communication satellites. Aeroflex / Weinschel Terminations can be screened to your specifications and testing requirements.

Aeroflex / Weinschel's use of precision connectors, injection molded captivation of connector contacts, internal pring/plunger contacts (no solder or contact fingers) and very precise and stable resistors result in a superior electrical and mechanical design that is ideally suited for space applications. Page 17 provides a list of Aeroflex / Weinschel's program experience and available testing programs for space qualified components.



Does Aeroflex / Weinschel offer High Reliability Models?

Most Aeroflex / Weinschel Corporation Terminations & Loads can be supplied according to customer specified testing, environmental or military or government specification requirements.

What is Third-Order Intermodulation Distortion?

(IM3) Intermodulation distortion (IM) consists of the spurious signals which result from the mixing of nth order frequencies in the non-linear elements of a component. Third order intermodulation distortion is of particular interest because third order products typically represent the highest level distortion appearing close to the desired signal, and as such the highest level non-filterable distortion. Third order IM level (IM3) is tested by injecting two pure tones of equal magnitude (f1 and f2) into the component to be tested. The third order IM products will appear in the output spectrum at the frequencies 2f1-f2 and 2f2-f1. These products are characterized by defining their level (in dBc) relative to the fundamental output tones at either f1 or f2.

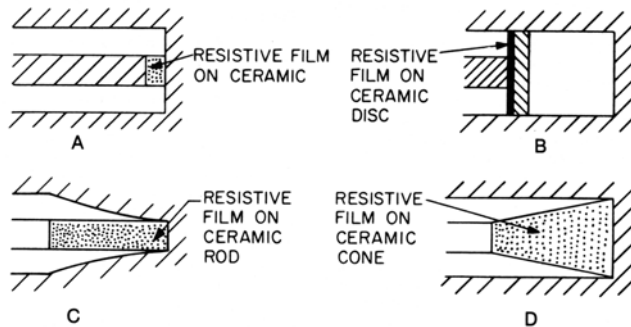
Does Aeroflex / Weinschel offer any of terminations with IM3 specified?

Yes, Aeroflex / Weinschel has recently introduced new as well as updated models specifically for applications requiring low intermodulation distortion. These models are available in 25, 50, 150 Watt varieties. Aeroflex / Weinschel can also modify or specify IM3 on several of its standard standard models such as 1418, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1435, 1439, & 1442. Refer to the specific data sheet for IM3 details.

How do I select a termination for my application?

Termination applications exist in almost every phase of microwave technology from design and measurement to systems. Good terminations are an indispensable aid in making bench measurements on microwave components in the engineering laboratory, as those ports of a multiport microwave device which are not involved in the measurement should be terminated in their characteristic impedance in order to ensure an accurate measurement. Many microwave systems employ directional couplers which require terminations on at least one port, and most have various modes of operation or test where terminations are needed on certain terminals.

A matched termination of a generalized transmission line is ideally represented by an infinite length of that line having small, but non-zero loss per unit length so that all incident energy is absorbed and none is reflected. Although this type of matched load (termination) was actually used extensively during the early exploration of high frequencies where the wavelength was short enough for the method to be employed, more efficient and practical types of termination have been developed.



There are several ways in which a matched termination for a 50-ohm coaxial line may be realized. Some of these are shown below. Illustration A of the Figure shows a cross-section of coaxial line terminated in a lumped 50-ohm series resistor which is a short length of resistive film on a cylindrical ceramic substrate. Illustration B is similar to A except that the 50-ohm resistor is a film on a ceramic disc and appears in shunt with the open of the coaxial line.

More effective matched loads for very high frequencies are shown in illustration C and D.

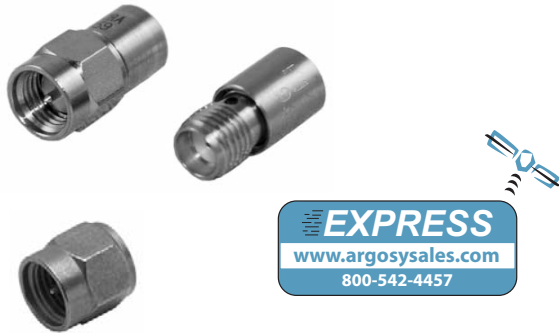
The outer conductor in the design of illustration C is tapered in either an exponential or a tractrix curve from the region near the start of the resistive film on the inner conductor to the end of the resistor. The design of illustration D to these parameters, it is usually necessary to specify the shaped ceramic body extending from the inner conductor. The advantage of this design is that it dissipates more power. Aeroflex / Weinschel matched termination designs are similar to those shown in C.

A well-matched attenuator of at least 20 dB loss can also be utilized as a termination. This is particularly useful in high power applications. For example our new Model 1456 1,000 Watt termination is supplied with a second connector for power monitoring



Model 1437RA Model RS3016 Subminiature, SMA Connector

dc to 6.0 GHz / 2 Watts
dc to 18.0 GHz / 1 Watt



Features

- /// Subminiature Size and Lightweight
- /// Low Cost & SWR
- /// Cellular Applications: Optimized for use in the wireless communications bands.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: M/F1437RA: dc to 6.0 GHz
RS3016: dc to 18.0 GHz

POWER RATING:

Model 1437RA: 2.0 watts **average** @ 25°C ambient temperature, derated linearly to 0.5 watts @ 125°C. 250 watts **peak** maximum (5 μ sec pulse width; 0.4% duty cycle).

Model RS3016: 1.0 watts **average** @ 25°C ambient temperature, derated linearly to 0 watts @ 125°C. 250 watts **peak** maximum (5 μ sec pulse width; 0.2% duty cycle).

MAXIMUM SWR:

Frequency Range (GHz)	F1437RA	M1437RA	RS3016
dc - 4	1.05	1.15	1.05
4 - 8 (6)	1.10	1.20	1.10
8 - 12.4	---	---	1.15
12.4 - 18	---	---	1.20

TEMPERATURE RANGE: -65°C to +125°C

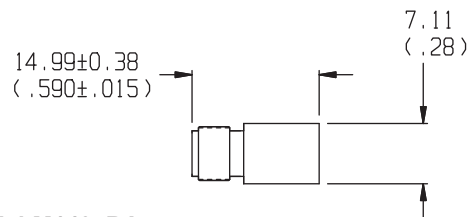
CONNECTOR: **Model 1437RA:** SMA connectors - mate nondestructively with MIL-C-39012 connectors. Choice of male or female connector, prefix model number with M for male and F for female. **Model RS3016** available in SMA male only!

CONSTRUCTION: Passivated stainless steel connectors with gold plated beryllium copper contacts.

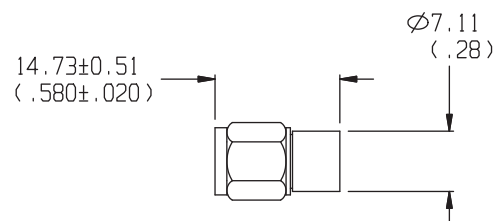
WEIGHT: M1437RA: 3.0 g (0.11 oz)
F1437RA: 4.0 g (0.14 oz)
RS3016: 2.3 g (0.08 oz)

PHYSICAL DIMENSIONS:

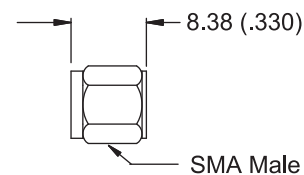
Model F1437RA:



Model M1437RA:



Model RS3016 (male only):

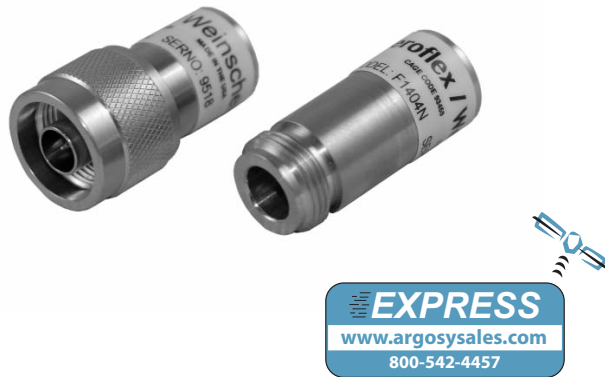


NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1404N Precision Lab Standard N Connectors

dc to 18.0 GHz
1 Watt

 **RoHS**



Features

- /// **Precision Connector** - Interface dimensions per MIL-STD-348 Test connector
- /// **Rugged Construction** - Numerically controlled machining is used to produce high quality uniform parts with controlled concentricity and surface finishes. The result is excellent SWR repeatability.

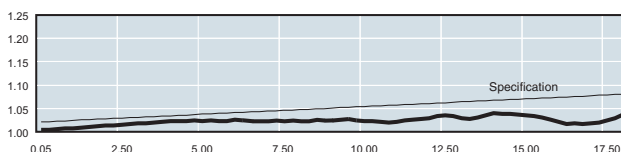
Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

POWER RATING: 1.0 watt **average** to 25 °C ambient temperature, derated linearly to 0.1 watts @ 125°C. 1 kilowatt **peak** maximum (5 μ sec pulse width; 0.05 % duty cycle).

MAXIMUM SWR:	
Model	SWR
F1404N	$\leq 1.04 + 0.0023f$ (GHz)
M1404N	$\leq 1.02 + 0.0033f$ (GHz)



Typical M1404 SWR Performance

TEMPERATURE RANGE: -55°C to +85°C

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

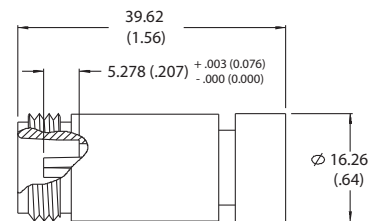
CONNECTOR: Type N connector - mates nondestructively with MIL-C-39012 connector. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

CONSTRUCTION: Gold plated brass body; stainless steel connector; gold plated beryllium copper contacts.

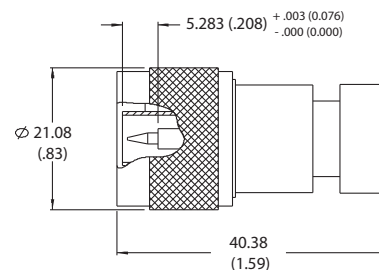
WEIGHT: Net, 110 g (4 oz)

PHYSICAL DIMENSIONS:

MODEL F1404N:



MODEL M1404N:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Models 1406A & 1408

Subminiature, Ruggedized SMA Connectors

dc to 18.0 GHz

2 Watts



Features

Models 1406A & 1408 are general purpose subminiature terminations that operate in the frequency range of dc to 18 GHz but are usable to 26.5 GHz.

- /// **Low SWR** - Model 1406A has low VSWR across its operating range (typical SWR is less than specified). The Model 1408 has ultra-low SWR to 18 GHz (usable to 26.5 GHz).
- /// **Subminiature Size and Lightweight** - All models are approximately 0.5 inches long, and weigh less than 3 grams with male connector and 1.5 grams with female connector.
- /// **Rugged Construction.**

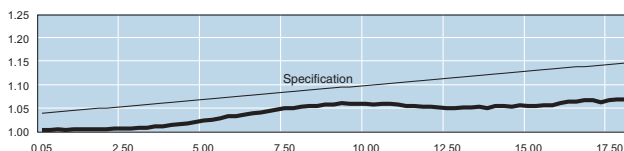
Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

POWER RATING: 2 Watts average @ 25 C ambient temperature derated linearly to 0.2 watt @ 125 °C. 500 watts peak (5 μ sec pulse width; 0.2% duty cycle).

MAXIMUM SWR:	
Model	SWR
1406A	$1.05 + 0.009f$ (GHz)
1408	$1.04 + 0.006f$ (GHz)



Typical M1408 SWR Performance

TEMPERATURE RANGE: -54°C to +105°C

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

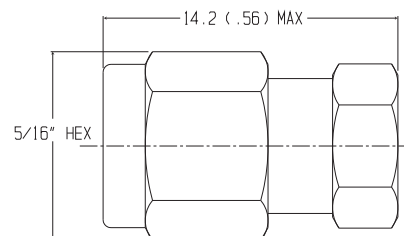
CONNECTOR: SMA connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

CONSTRUCTION: Gold plated beryllium copper contacts with passivated stainless steel.

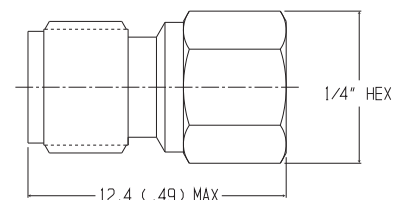
WEIGHT: Male Connector: 2.8 g (0.1 oz)
Female Connector: 1.4 g (0.05 oz)

PHYSICAL DIMENSIONS:

M1406 / M1408:



F1406 / F1408:

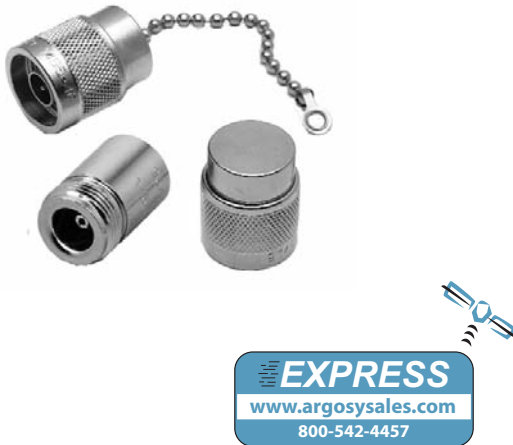


NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1455 General Purpose, N Connectors

dc to 18.0 GHz
2 Watt

☒ **RoHS**



Features

- /// **Low Cost Type N Connector** - Interface dimensions per MIL-STD-348 Test connector.
- /// **Rugged Construction** - Numerically controlled machining is used to produce high quality uniform parts with controlled concentricity and surface finishes. The result is excellent SWR repeatability.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:		
Frequency Range (GHz)	1455-3 1455-3C	1455-4 1455-4C
dc - 8	1.20	1.20
8 - 12.4	1.25	1.20
12.4 - 18	1.30	1.25

POWER RATING: 2 watts **average** to 25°C ambient temperature, derated linearly to 1 watts @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 0.5 % duty cycle)

TEMPERATURE RANGE: -65°C to +125°C

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male or female connector. Order as follows:

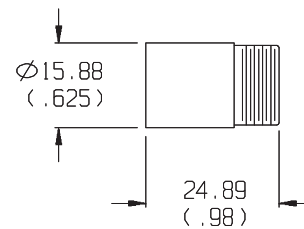
Model	Connector Type
1455-4	Type N Male
1455-3	Type N Female
1455-4C	Type N Male with chain
1455-3C	Type N Female with chain

CONSTRUCTION: Nickel plated brass connector; gold plated beryllium copper contacts, stainless steel bead chains.

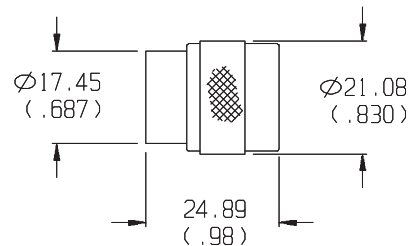
WEIGHT: 110 g (4 oz) maximum

PHYSICAL DIMENSIONS:

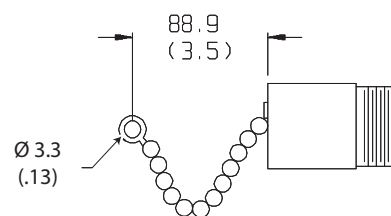
Model 1455-3:



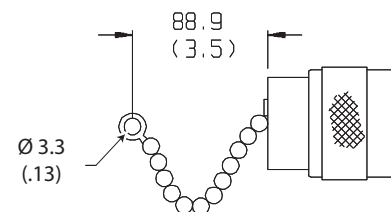
Model 1455-4:



Model 1455-3C:



Model 1455-4C:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1465 Precision, 3.5mm Connectors

dc to 32.0 GHz
2 Watt



Features

- /// High Performance - Precision Lab Grade
- /// Subminiature Size and Lightweight - All models weigh 7 grams with male connector
- /// Low SWR Design Option
- /// Rugged Construction

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 32.0 GHz

POWER RATING: 2.0 watt **average** @ 25°C ambient temperature, derated linearly to 0.2 watts @ 100°C. 500 watts **peak** maximum (5 μ sec pulse width; 0.2% duty cycle).

MAXIMUM SWR:		
Frequency Range (GHz)	F1465 M1465	F1465A M1465A
dc - 18	1.08	1.06
18 - 26.5	1.10	1.08
26.5 - 32	1.15	1.10

TEMPERATURE RANGE: -50°C to +100°C

STORAGE TEMPERATURE: -50°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 32 GHz is available at additional cost.

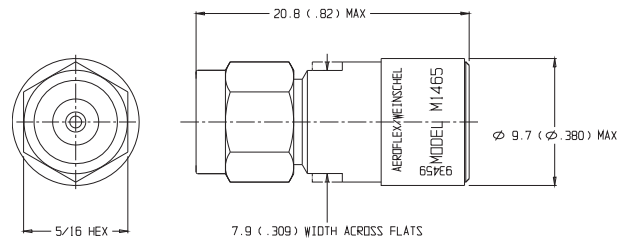
CONNECTOR: Male or Female 3.5mm connector - mate nondestructively with SMA, SMK, 2.92mm, and other 3.5mm connectors. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

PIN RECESS: 0.003 maximum (male and female connectors)

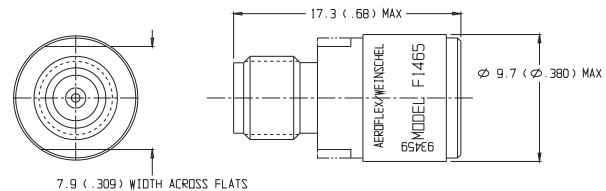
WEIGHT: 7.0 g (0.25 oz) maximum

PHYSICAL DIMENSIONS:

Model M1465/M1465A:



Model F1465/F1465A:



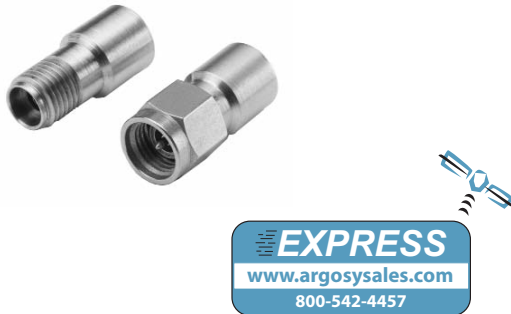
NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Terminations & Loads



Model 1459 Precision, SMK Connectors

dc to 40.0 GHz
2 Watts



Features

- /// High Performance - Precision Lab Grade
- /// Subminiature Size and Lightweight - All models weigh 6 grams with male connector
- /// Low SWR Design Option
- /// Rugged Construction

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 40.0 GHz

POWER RATING: 2.0 watt **average** @ 25°C ambient temperature, derated linearly to 0.2 watts @ 100°C. 500 watts **peak** maximum (5 μ sec pulse width; 0.2% duty cycle).

MAXIMUM SWR:			
Frequency Range (GHz)	F1459 M1459	F1459A	M1459A
dc - 18	1.15	1.10	1.10
18 - 40	1.25	1.18	1.15

TEMPERATURE RANGE: -50°C to +100°C

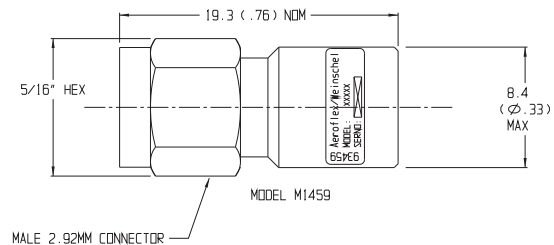
TEST DATA: Swept data plots of SWR from 50 MHz to 40 GHz is available at additional cost.

CONNECTOR: SMK (2.92mm) connector compatible with SMA, 3.5mm and SMK connector. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

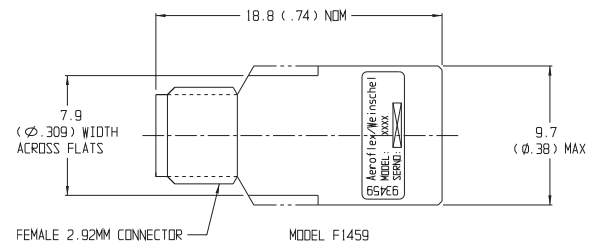
WEIGHT: 6.0 g (0.17 oz) maximum

PHYSICAL DIMENSIONS:

Model M1459/M1459A:

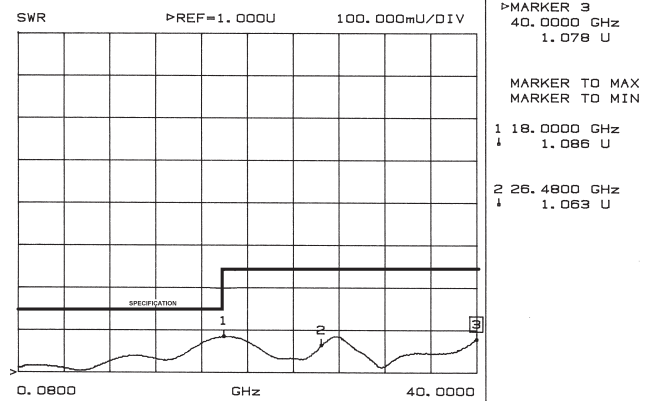


Model F1459/F1459A:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

S22 REVERSE REFLECTION



Typical M1459 SWR Performance

Model 1460 Precision, 2.4mm Connectors

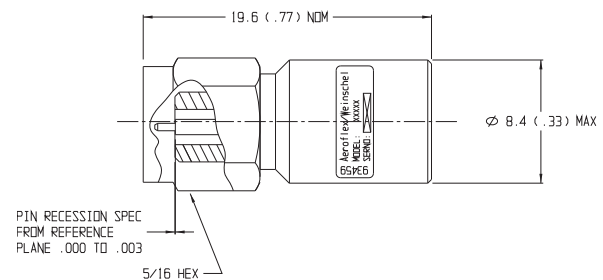
dc to 50.0 GHz
2 Watt



WEIGHT: 6.0 g (0.16 oz) maximum

PHYSICAL DIMENSIONS:

Model M1460/M1460A:



Features

- /// **High Performance - Precision Lab Grade**
- /// **Subminiature Size and Lightweight** - All models weigh less than 6 grams with male connector
- /// **Low SWR Design Option**
- /// **Rugged Construction**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 50.0 GHz

POWER RATING: 2.0 watt **average** @ 25°C ambient temperature, derated linearly to 0.2 watts @ 100°C. 500 watts **peak** maximum (5 μ sec pulse width; 0.2% duty cycle).

MAXIMUM SWR:

Frequency Range (GHz)	F1460 M1460	M1460A F1460A
dc - 20	1.10	1.10
20 - 50	1.22	1.15

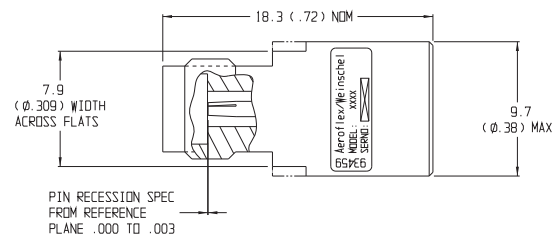
TEMPERATURE RANGE: -50°C to +100°C

TEST DATA: SWR Testing performed across the frequency band. Test data is available at additional cost.

CONNECTOR: 2.4mm connector mates nondestructively with other 2.4mm connectors. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

TEST DATA: Swept data plots of SWR from 50 MHz to 32 GHz.

Model F1460/F1460A:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1424 N Connectors

dc to 12.4 GHz
5 Watt



TEST DATA: Swept data plots of SWR from 50 MHz to 12.4 GHz.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
3	Type N, Female
4	Type N, Male

CONSTRUCTION: Stainless steel connector; gold plated beryllium copper contacts

WEIGHT: Net 60 g (2 oz)

PHYSICAL DIMENSIONS:

Features

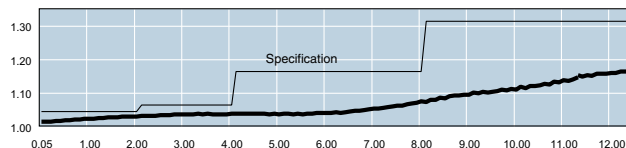
- /// **Quality Connectors** - Choice of male or female N connector that mate nondestructively with connector manufactured in accordance with MIL-C-39012.
- /// **Rugged Construction.**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 12.4 GHz

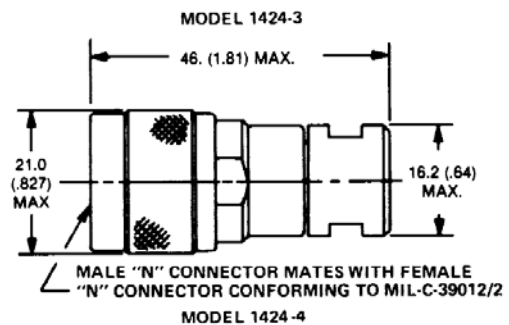
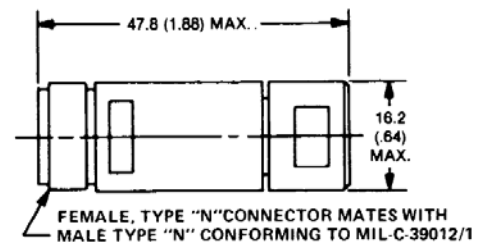
MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 2	1.03
2 - 4	1.05
4 - 8	1.15
8 - 12.4	1.30



Typical 1424-3 SWR Performance

POWER RATING: 5 watts **average** @ 25°C ambient temperature, derated linearly to 0 watts @ 125°C. 5 kilowatts **peak** (5 μ sec pulse width; 0.05 % duty cycle)

TEMPERATURE RANGE: -55°C to +125°C



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1443A Subminiature, SMA Connectors

dc to 18.0 GHz
5 Watts

 **RoHS**



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Precision Injection Molded Connector.**
- /// **Low SWR.**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 18	1.15

POWER RATING: 5 watts average (mounted horizontally assuming unobstructed air flow and natural convection around unit) to 25°C ambient temperature, derated linearly to 0.5 watts @ 100°C. 500 watts **peak** (5 μ sec pulse width; 0.5% duty cycle).

TEMPERATURE RANGE: -55°C to +100°C

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

CONNECTOR: SMA connector per MIL-STD-348 interface dimensions - mate nondestructively with SMK, 3.5mm, 2.92mm and SMA connectors per MIL-C-39012 .

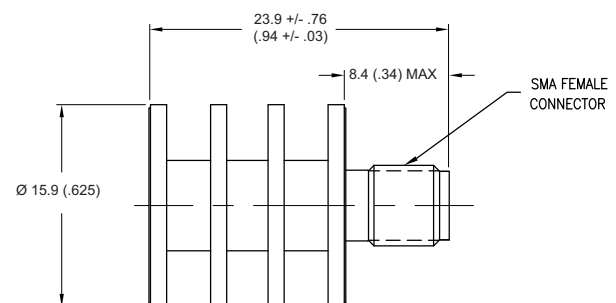
Choice of male (-2) or female (-1) connector.

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

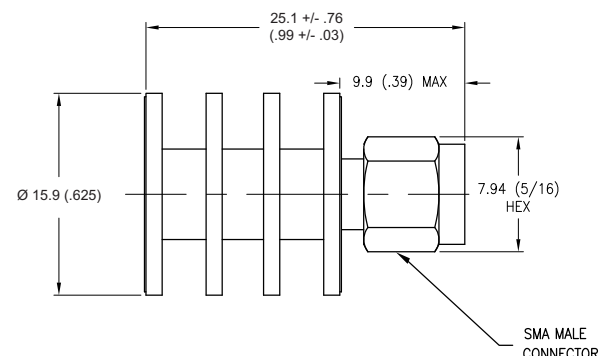
WEIGHT: 10 g (0.35 oz)

PHYSICAL DIMENSIONS:

Model 1443A-1:



Model 1443A-2:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1445A SMK Connectors

dc to 40.0 GHz
5 Watts

☒ **RoHS**



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Precision Injection Molded Connector.**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 40.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 18	1.20
18 - 40	1.35

POWER RATING: 5 watts **average** (mounted **horizontally**) to 25°C ambient temperature, derated linearly to 0.5 watts @ 125°C. 200 watts **peak** (5 μ sec pulse width; 1.25% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

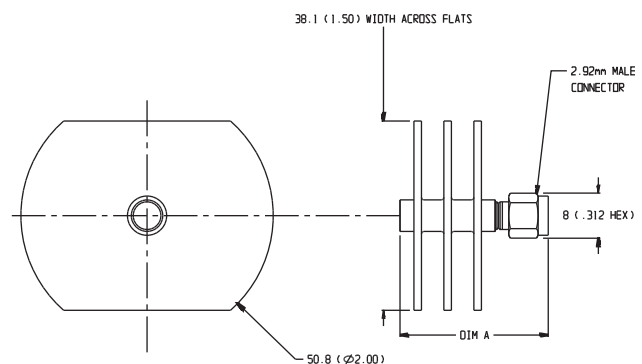
TEST DATA: Swept data plots of SWR from 50 MHz to 40 GHz is available at additional cost.

CONNECTOR: 2.92mm connector mate nondestructively with SMA per MIL-C-39012, SMK, 3.5mm and other 2.92mm connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, gold plated beryllium copper contacts.

WEIGHT: 200 g (7 oz)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1445A-1	33.8 (1.33)	2.92mm female
1445A-2	37.8 (1.49)	2.92mm male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1419

Medium Power, Ruggedized SMA Connectors

dc to 18.0 GHz

10 Watts

 **RoHS**



Features

- /// **Miniature Size and Lightweight** - All models are approximately 1.6 inches long, and weigh less than 14 grams with male connector.
- /// **Quality Injection Molded Connector.**

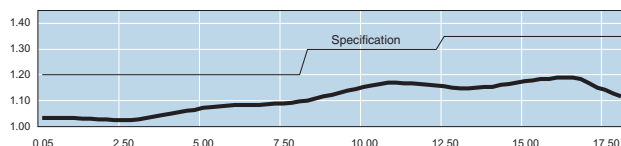
Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 8	1.20
8 - 12.4	1.30
12.4 - 18	1.35



Typical M1419 SWR Performance

POWER RATING: 10 watts **average** (mounted **horizontally**) @ 25°C ambient temperature, derated linearly to 0 watts @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 0.5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

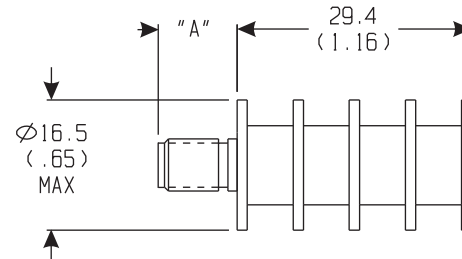
TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz.

CONNECTOR: SMA connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 14 g (0.49 oz)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
M1419	11.2 (0.44)	SMA male
F1419	9.4 (0.37)	SMA female

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1453 Medium Power, N Connectors

dc to 8.5 GHz
10 Watts



Features

- Optimized for Wireless OEM and Test Applications.
- Designed to meet environmental requirements of MIL-D-39030.
- Quality Injection Molded Connector.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 8.5 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	1.15
4 - 8.5	1.25

POWER RATING: 10 watts **average** (mounted horizontally) @ 25°C ambient temperature, derated linearly to 1 watt @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 0.5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

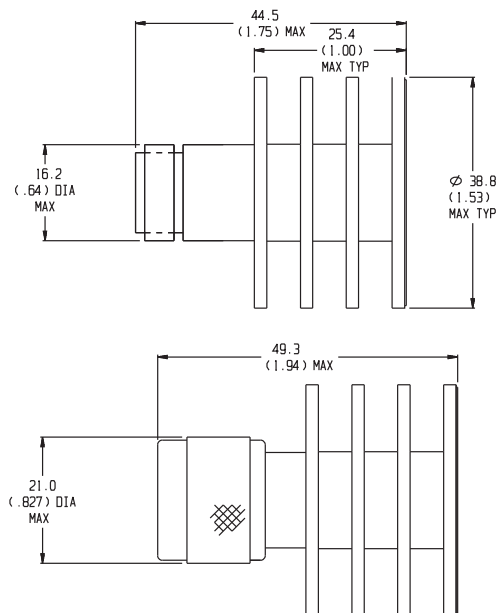
TEST DATA: Swept data plots of SWR from 50 MHz to 8.5 GHz.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 85 g (3 oz)

PHYSICAL DIMENSIONS:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1425 Medium Power, N Connectors

dc to 12.4 GHz
10 Watts



TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 12.4 GHz is available at additional cost.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
3	Type N, Female
4	Type N, Male

Features

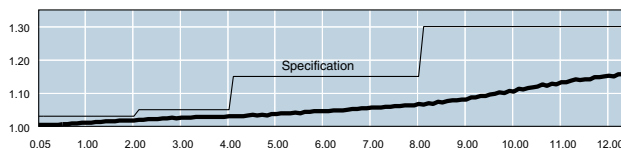
- /// **Quality Connectors** - Choice of male or female N connector that mate nondestructively with connector manufactured in accordance with MIL-C-39012.
- /// **Rugged Construction.**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 12.4 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 2	1.03
2 - 4	1.05
4 - 8	1.15
8 - 12.4	1.30



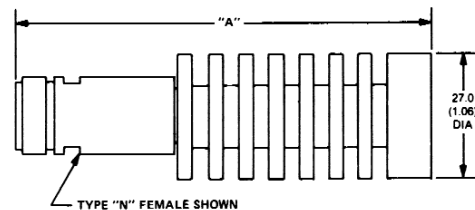
Typical 1425-4 SWR Performance

POWER RATING: 10 watts **average** (mounted horizontally) @ 25°C ambient temperature, derated linearly to 0 watts @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 0.5% duty cycle).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts

WEIGHT: Net 110 g (4 oz)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1425-4	84.58 (3.33)	N, male
1425-3	86.36 (3.40)	N, female

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1418 Medium Power, N Connectors

dc to 18.0 GHz
10 Watts

 **RoHS**



Features

- /// Optimized for Wireless OEM and Test Applications.
- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Quality Injection Molded Connector.

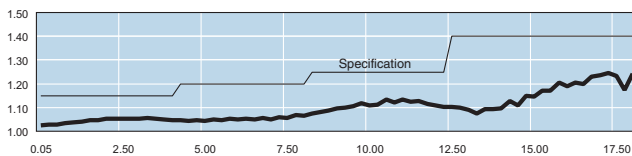
Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 4	1.15
4 - 8	1.20
8 - 12.4	1.25
12.4 - 18	1.40



Typical M1418 SWR Performance

POWER RATING: 10 watts **average** (mounted horizontally) @ 25°C ambient temperature, derated linearly to 0 watt @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 0.5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

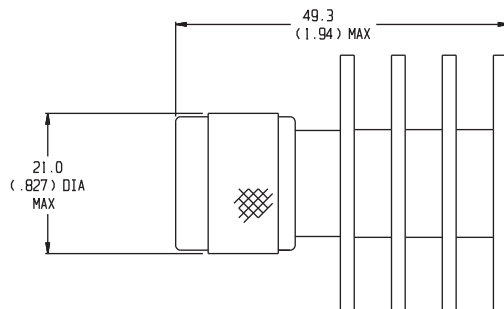
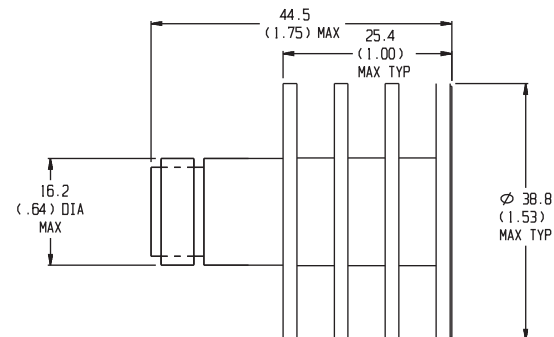
TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 90 g (3 oz)

PHYSICAL DIMENSIONS:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1452 Medium Power, N or SMK Connectors Convection Cooled

dc to 4.0 GHz
25 Watts

 **RoHS**



Features

- /// Optimized for Wireless OEM and Test Applications.
- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Quality Injection Molded Connector.
- /// 5 Kilowatts Peak Power.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 4.0 GHz

MAXIMUM SWR*:

Frequency (GHz)	SWR
dc - 2	1.10
2 - 4	1.20

POWER RATING: 25 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 2.5 watts @ 125°C. 5 kilowatts **peak** (5 μ sec pulse width; 0.25% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 4 GHz is available at additional cost.

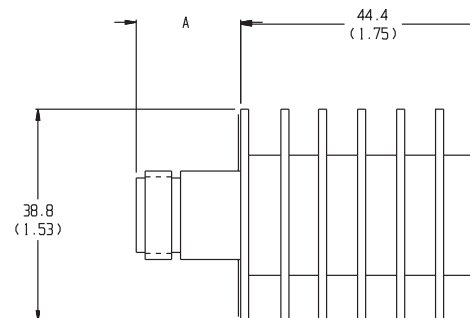
CONNECTOR: Type N or SMK (2.92mm) connectors mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
1	SMK, Female
2	SMK, Male
3	Type N, Female
4	Type N, Male

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 150 g (5.2 oz)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1452-1	12.7 (0.50)	2.92mm female
1452-2	14.0 (0.55)	2.92mm male
1452-3	15.0 (0.59)	N female
1452-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1446

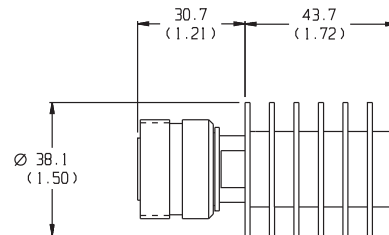
Medium Power, 7/16 Connectors

Low Intermodulation Design

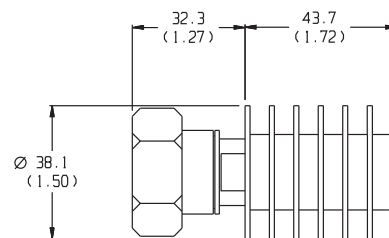
25 Watts
dc to 6.0 GHz



PHYSICAL DIMENSIONS:



MODEL NO. 1446-1 FEMALE



MODEL NO. 1446-2 MALE

Features

- /// Optimized for Wireless OEM and Test Applications.
- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Custom Designs Available.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 6	1.20

POWER RATING: (mounted horizontally assuming unobstructed air flow and natural convection around unit: 25 watts **average** @ 25°C ambient temperature, derated linearly to 2.5 watts @ 125°C. 5 kilowatts **peak** (5 μ sec pulse width; 0.25% duty cycle).

INTERMODULATION: IM3 (Reflected) = -100 dBc with two +41 dBm Input Tones @ 869 MHz and 891 MHz.

TEMPERATURE RANGE: -55°C to 125°C.

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

CONNECTOR: 7/16 connector that conforms to DIN 47 223, IEC 1694, VG 95250, CECC 22190. Choice of 7/16 male(-2) or 7/16 female (-1) connector

CONSTRUCTION: Black, finned aluminum body, silver plated brass connector.

WEIGHT: Net 216 g (7.6 oz) maximum

NOTE: All dimensions are given in mm (inches) and tolerances are X.X+0.8 (0.3) unless otherwise specified.

Model 1427 Medium Power, N or SMK Connectors Convection Cooled

dc to 10.0 GHz
25 Watts



Features

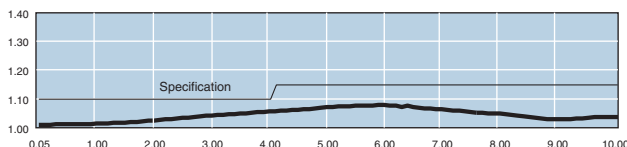
- Designed to meet environmental requirements of Quality Injection Molded Connector.
- Low Intermodulation Option
- 5 Kilowatts Peak Power

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 10.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	1.10
4 - 8	1.15
8 - 10	1.30



Typical M1427 SWR Performance

POWER RATING: 25 watts **average** (mounted horizontally) @ 25°C ambient temperature, derated linearly to 2.5 watts @ 125°C. 5 kilowatts **peak** (5 μ sec pulse width; 0.25% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

INTERMODULATION (Model 1427-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +41 dBm each.

TEST DATA: Swept data plots of SWR from 50 MHz to 10 GHz is available at additional cost.

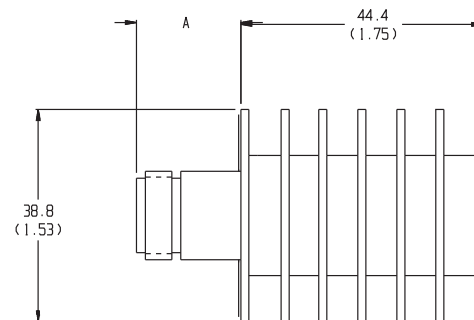
CONNECTOR: Type N or SMK (2.92mm) connectors mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
1	SMK, Female
2	SMK, Male
3	Type N, Female
4	Type N, Male

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 150 g (5.2 oz)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1427-1	12.7 (0.50)	2.92mm female
1427-2	14.0 (0.55)	2.92mm male
1427-3	15.0 (0.59)	N female
1427-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

1427 - X - LIM
 Basic Model Number Connector Option IM Option*

* Add -LIM to entire model number for Low Intermodulation option. Option not available through Express.

Model 1429

Medium Power, N & 3.5mm Connectors

Convection Cooled

dc to 18.0 GHz

25 Watts

☒ **RoHS**



Features

- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Rugged injection molded connector.
- /// Low Intermodulation Option.
- /// 1 Kilowatt Peak Power

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 18	1.20

POWER RATING: 25 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 2.5 watts @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 1.25% duty cycle).

INTERMODULATION (Model 1429-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +41 dBm each.

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

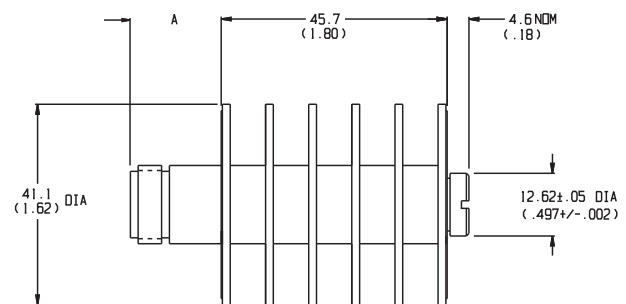
CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

3.5mm connector mate nondestructively with SMA per MIL-C-39012, 2.92mm and other 3.5mm connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contact or stainless steel male contact.

WEIGHT: 100 g (3.5 oz)

PHYSICAL DIMENSIONS:

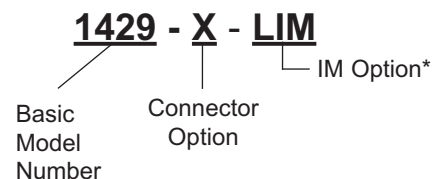


Model #	DIM A	Connector Type
1429-1	13.2 (0.52)	3.5mm female
1429-2	14.0 (0.55)	3.5mm male
1429-3	18.3 (0.72)	N female
1429-4	23.1 (0.91)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:



* Add -LIM to entire model number for Low Intermodulation option.

Model 1444

Medium Power, 3.5mm Connectors

Convection Cooled

dc to 26.5 GHz
25 Watts

 **RoHS**



Features

- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Precision Connectors.
- /// Flat Response.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 26.5 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 26.5	1.25

POWER RATING: 25 watts average (**mounted horizontally**) **average @ 25°C** ambient temperature, derated linearly to 2.5 watt @ 125°C. 500 watts **peak** (5 μ sec pulse width; 2.5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

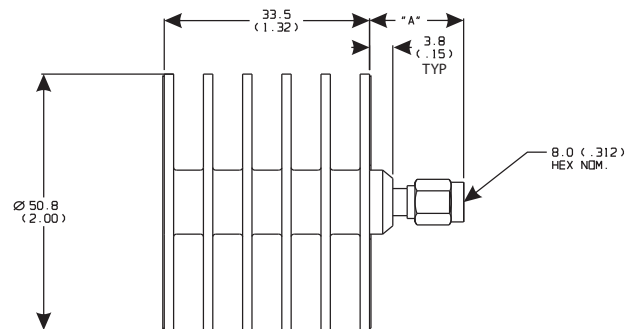
TEST DATA: Swept data plots of SWR from 50 MHz to 26.5 GHz.

CONNECTOR: 3.5mm connectors - mate nondestructively with SMA per MIL-C-39012, 2.92mm, and other 3.5mm connectors. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 100 g (3.5 oz)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1444-1	15.0 (0.59)	3.5mm female
1444-2	16.0 (0.63)	3.5mm male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Terminations & Loads



Model 1468

Medium Power, SMA, N & BNC Connectors



dc to 6.0 GHz

50 Watts

Low Cost Design



Features

- /// Compact Construction - Lowest size/power ratio.
- /// Quality Injection Molded Connector.
- /// Ideal for high volume OEM Wireless Applications.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 4	1.30
4 - 6	1.60

POWER RATING: 50 watts **average** at 25°C ambient temperature derated linearity to 5 Watts at 125°C. 1 kW peak (5 μ sec pulse width: 2.5% duty cycle)

TEMPERATURE RANGE: -55°C to 125°C case.

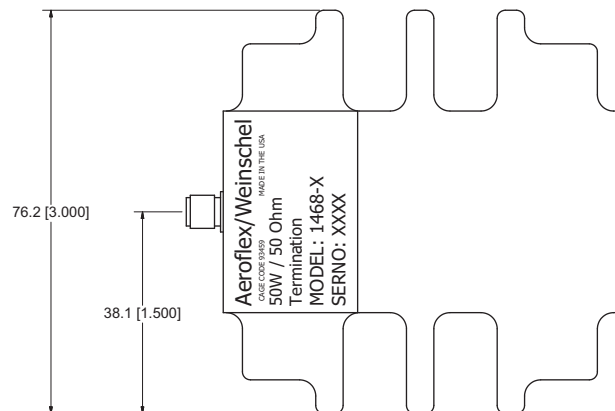
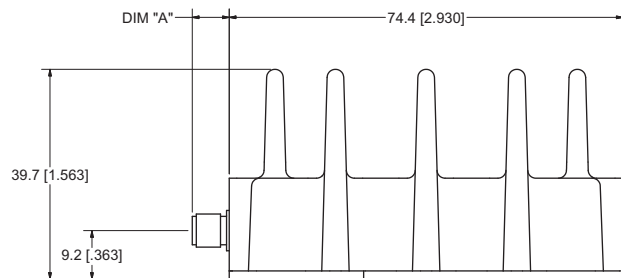
CONNECTOR: SMA or Type N connector per MIL-STD-348 interface dimensions - mates nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
1	SMA, Female
2	SMA, Male
3	Type N, Female
4	Type N, Male
8	BNC Female
9	BNC Male

CONSTRUCTION: Aluminum alloy body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: Net 318 g (11.2 oz.) maximum

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1468-1	7.0 (0.275)	SMA female
1468-2	10.3 (0.405)	SMA male
1468-3	14.9 (0.587)	N female
1468-4	17.8 (0.700)	N male
1468-8		BNC Female
1468-9		BNC Male

NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Minimum quantities apply. Contact Factory.

Model 1447

Medium Power, 7/16 Connectors

Low Intermodulation Design

50 Watts
dc to 6.0 GHz



Features

- /// Optimized for Wireless OEM and Test Applications.
- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Custom Designs Available.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 6	1.20

POWER RATING: (mounted horizontally assuming unobstructed air flow and natural convection around unit): 50 watts **average** to 25°C ambient temperature, derated linearly to 5 watts @ 125°C. 5 kilowatt **peak** (5 μ sec pulse width; 0.5% duty cycle).

INTERMODULATION: IM3 (Reflected) = -100 dBc with two +43 dBm Input Tones @ 869 MHz and 891 MHz.

TEMPERATURE RANGE: -55°C to 125°C.

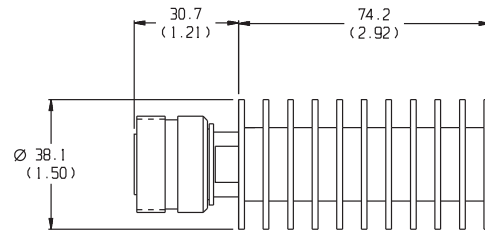
TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz is available at additional cost.

CONNECTOR: 7/16 connector that conforms to DIN 47 223, IEC 1694, VG 95250, CECC 22190. Choice of 7/16 male(-2) or 7/16 female (-1) connector

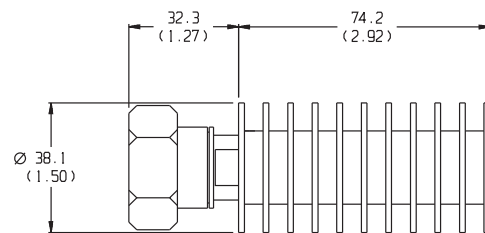
CONSTRUCTION: Black, finned aluminum body, silver plated brass connector.

WEIGHT: Net 354 g (12.5 oz) maximum

PHYSICAL DIMENSIONS:



MODEL NO. 1447-1 FEMALE



MODEL NO. 1447-2 MALE

NOTE: All dimensions are given in mm (inches) and tolerances are X.X+0.8 (0.3) unless otherwise specified.

Model 1426 Medium Power, N & SMK Connectors Convection Cooled

dc to 10 GHz
50 Watts

☒ **RoHS**



Features

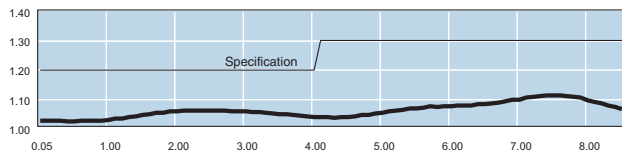
- /// **Rugged Construction** - Quality connector with special high temperature support bead.
- /// **Low Intermodulation Option**
- /// **5 Kilowatts Peak Power**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 10 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	1.20
4 - 10	1.30



Typical 1426-4 SWR Performance

POWER RATING: 50 watts **average** (mounted horizontally) to 25°C ambient temperature, derated linearly to 5 watts @ 125°C. 5 kilowatts **peak** (5 μ sec pulse width; 0.5% duty cycle).

INTERMODULATION (Model 1426-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +43 dBm each.

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 10 GHz is available at additional cost.

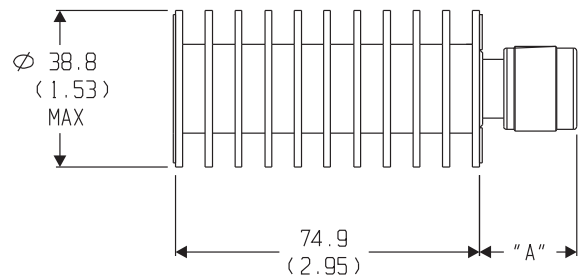
CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contacts and stainless steel male contacts.

WEIGHT: Net 280 g (10 oz.)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1426-1	12.7 (0.50)	2.92mm female
1426-2	14.0 (0.55)	2.92mm male
1426-3	15.0 (0.59)	N female
1426-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

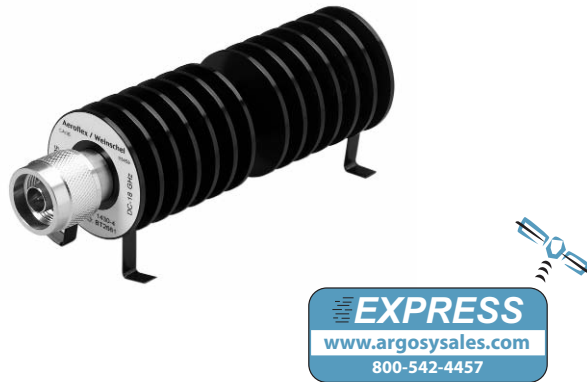
1426 - X - LIM
 Basic Model Number Connector Option IM Option*

* Add -LIM to entire model number for Low Intermodulation option. Option not available through Express.

Model 1430

Medium Power, N & 3.5mm Connectors
Convection Cooled

dc to 18.0 GHz
50 Watts



Features

- Designed to meet environmental requirements of MIL-D-39030.
- Rugged injection molded connector.
- 1 Kilowatt Peak Power

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 8	1.15
8 - 18	1.30

POWER RATING: 50 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 5 watts @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 2.5% duty cycle).

INTERMODULATION (Model 1430-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +43 dBm each.

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

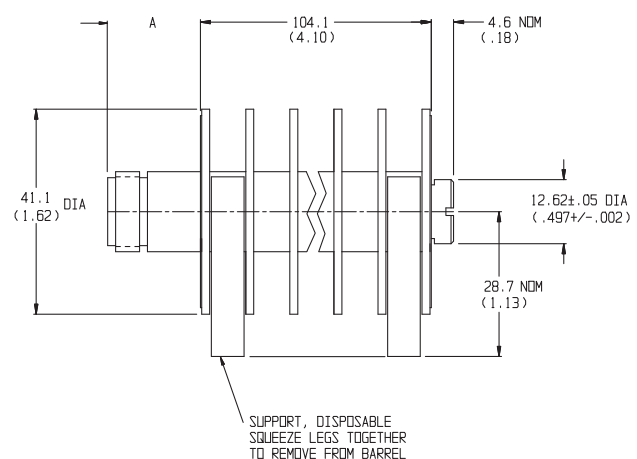
CONNECTOR: Type N connector - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

3.5mm connector mate nondestructively with SMA per MIL-C-39012, 2.92mm and other 3.5mm connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contact or stainless steel male contact.

WEIGHT: 175 g (6 oz)

PHYSICAL DIMENSIONS:

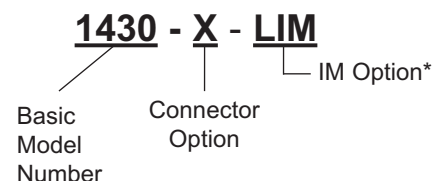


Model #	DIM A	Connector Type
1430-1	13.2 (0.52)	3.5mm female
1430-2	14.0 (0.55)	3.5mm male
1430-3	18.3 (0.72)	N female
1430-4	23.1 (0.91)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:



* Add -LIM to entire model number for Low Intermodulation option.

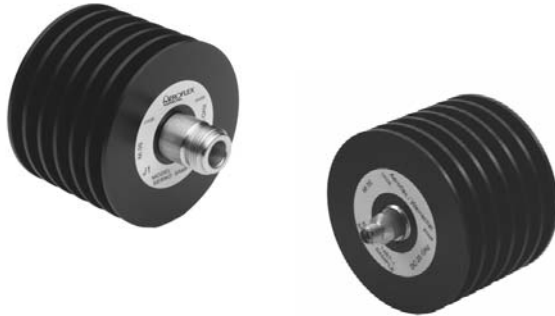
Model 1467

Medium Power, N & 3.5mm Connectors Convection Cooled

dc to 20.0 GHz
50 Watts



RoHS



CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

3.5mm connector mate nondestructively with SMA per MIL-C-39012, 2.92mm, 3.5mm and other SMA connectors. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 100 g (3.5 oz)

PHYSICAL DIMENSIONS:

Features

- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Rugged injection molded connector.
- /// 1 Kilowatt Peak Power

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

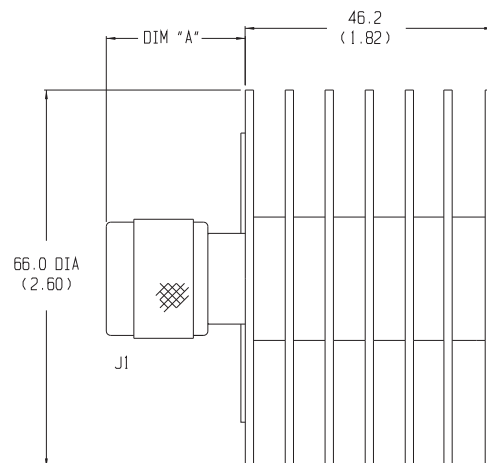
MAXIMUM SWR:

Frequency (GHz)	SWR (maximum)
dc - 18.0	1.15
18.0 - 20.0	1.20

POWER RATING (mounted horizontally): 50 watts **average** to 25°C ambient temperature, derated linearly to 5 Watts @ 125°C. 1 kW **peak** (5 μ sec pulse width; 2.5% duty cycle).

TEMPERATURE RANGE: -55 °C to 125 °C

TEST DATA: Swept data plots of SWR from 50 MHz to 20 GHz is available at additional cost .



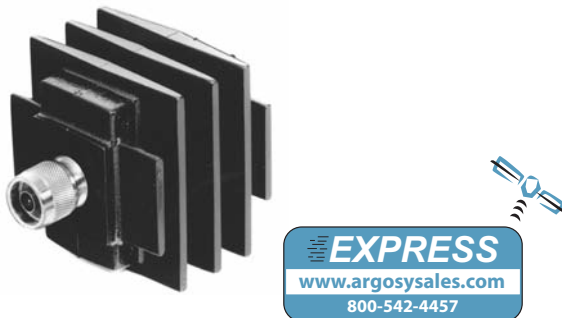
Connector	DIM A	Connector	DIM A
N Male	24.1 (0.95)	3.5mm Female	14.0 (0.55)
N Female	19.0 (0.75)	3.5mm Male	13.2 (0.52)

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1440 High Power, N or SMK Connectors Convection Cooled

dc to 6.0 GHz
100 Watts

 **RoHS**



Features

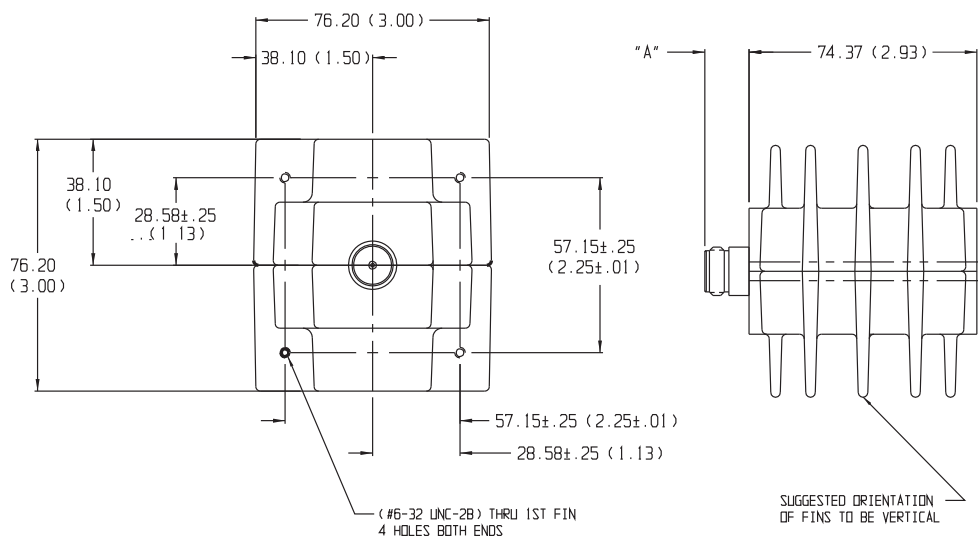
- /// **Compact Construction** - Lowest size/power ratio.
- /// **Low SWR**
- /// **Rugged Construction** - Quality connector with special high temperature support bead.
- /// **Ideal for Wireless Applications.**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1440-1	12.7 (0.50)	2.92mm female
1440-2	14.0 (0.55)	2.92mm male
1440-3	15.0 (0.59)	N female
1440-4	22.9 (0.90)	N male

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 6	1.15

POWER RATING: 100 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) to 25°C ambient temperature, derated linearly to 10 watts @ 125°C. 10 kilowatts **peak** (5 μ sec pulse width; 0.5 % duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper center contacts.

WEIGHT: 500 g (18 oz)

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1442 High Power, N or SMK Connectors Convection Cooled

dc to 10 GHz
100 Watts

☒ **RoHS**



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Rugged Construction** - Quality connector with special high temperature support bead.

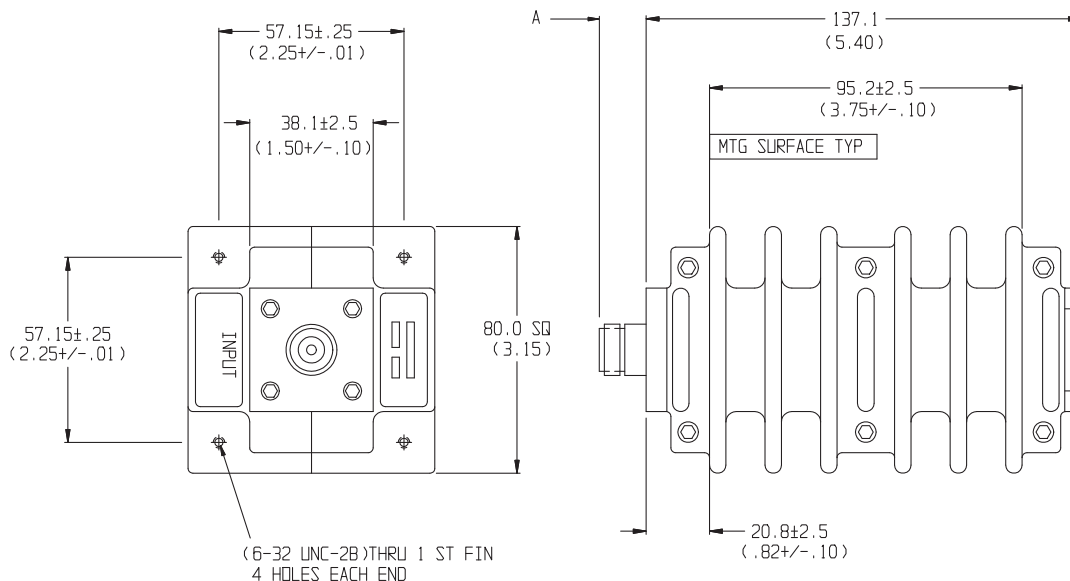
Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 10 GHz

POWER RATING (mounted horizontally with fins vertical): 100 watts **average** to 35°C ambient temperature, derated linearly to 10 watts @ 125°C. 5 kilowatts **peak** (5 μ sec pulse width; 1.0% duty cycle).

PHYSICAL DIMENSIONS:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 4	1.20
4 - 10	1.30

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 10 GHz is available at additional cost.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contact or stainless steel male contact.

WEIGHT: 1,130 g (2 lbs, 8 oz)

Model #	DIM A	Connector Type
1442-1	12.7 (0.50)	2.92mm female
1442-2	14.0 (0.55)	2.92mm male
1442-3	15.0 (0.59)	N female
1442-4	22.9 (0.90)	N male

Model 1431

High Power, N & 3.5mm Connectors

Convection Cooled

dc to 18.0 GHz

100 Watts

 **RoHS**



Features

- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Rugged injection molded connector.
- /// 1 Kilowatt Peak Power

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 8	1.20
8 - 18	1.30

POWER RATING: 100 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 10 watts @ 125°C. 1 kilowatt **peak** (5 μ sec pulse width; 5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

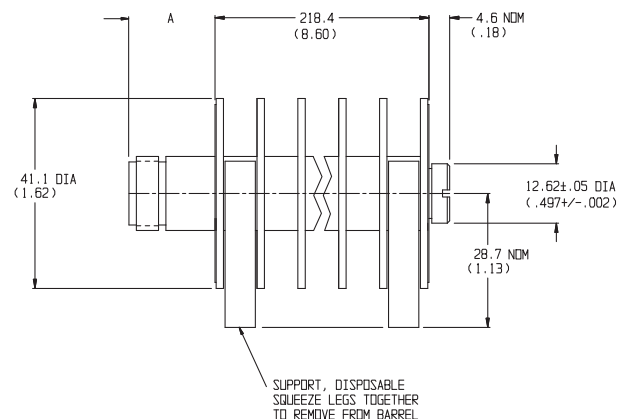
CONNECTOR: Type N connector mates nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

3.5mm connector mates nondestructively with SMA per MIL-C-39012, 2.92mm and other 3.5mm connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contact or stainless steel male contact.

WEIGHT: 320 g (11 oz)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1431-1	13.2 (0.52)	3.5mm female
1431-2	14.0 (0.55)	3.5mm male
1431-3	18.3 (0.72)	N female
1431-4	23.1 (0.91)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Terminations & Loads



Model 1469

High Power, N & 3.5mm Connectors
Convection Cooled

dc to 18.0 GHz



100 Watts

RoHS



Features

- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Rugged injection molded connector.
- /// Low Intermodulation Option
- /// 1 Kilowatt Peak Power

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 18.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR (maximum)
dc - 18.0	1.15
18.0 - 20.0	1.20

POWER RATING (mounted horizontally): 100 watts **average** to 25°C ambient temperature, derated linearly to 10 Watts @ 125°C. 1 kW **peak** (5 μ sec pulse width; 5% duty cycle).

INTERMODULATION (Model 1430-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +43 dBm each.

TEMPERATURE RANGE: -55 °C to 125 °C

TEST DATA: Swept data plots of SWR from 50 MHz to 18 GHz is available at additional cost.

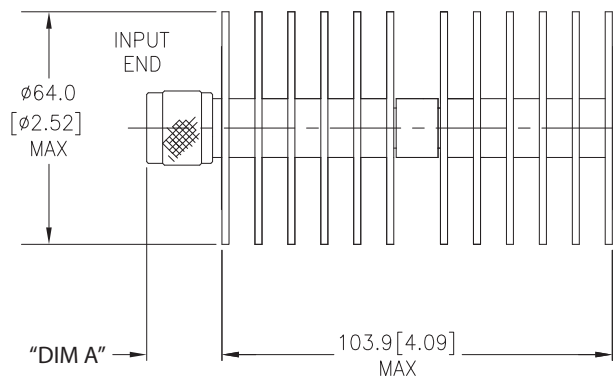
CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

3.5mm connector mates nondestructively with SMA per MIL-C-39012, 2.92mm (SMK) and other 3.5mm connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: 200 g (7.0 oz)

PHYSICAL DIMENSIONS:

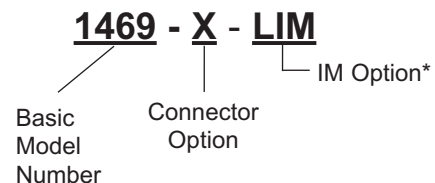


Model #	DIM A	Connector Type
1475-1	12.7 (0.50)	2.92mm female
1475-2	14.0 (0.55)	2.92mm male
1475-3	15.0 (0.59)	N female
1475-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

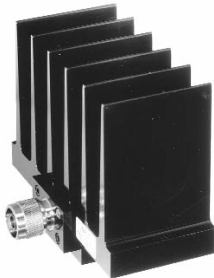


* Add -LIM to entire model number for Low Intermodulation option.

Model 1439 High Power, N or SMK Connectors Conduction / Convection Cooled

dc to 2.5 GHz
150 Watts

 **RoHS**



Features

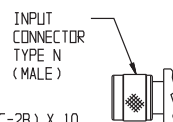
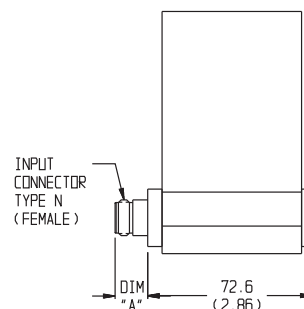
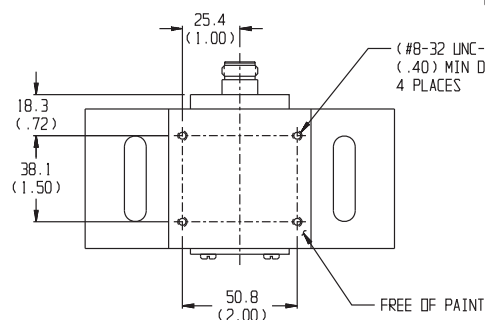
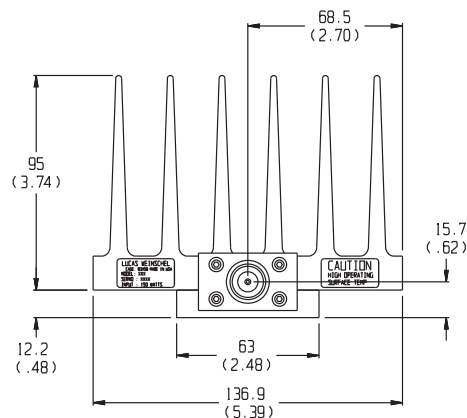
- /// **Compact Construction** - Lowest size/power ratio.
- /// **Flexible Mounting Position** - The units may be mounted in horizontal (fins up) or vertical position.
- /// **Rugged Construction** - Quality connector with special high temperature support bead.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 2.5 GHz

PHYSICAL DIMENSIONS:



MAXIMUM SWR*:

Frequency (GHz)	SWR
dc - 2.5	1.20

POWER RATING: 150 watts average (mounted horizontally or vertically assuming unobstructed air flow and natural convection around unit), 10 kilowatts peak (5 μ sec pulse width; 0.75% duty cycle). Case temperature must be held to **100°C maximum**.

TEMPERATURE RANGE: -55°C to 100°C case

TEST DATA: Swept data plots of SWR from 50 MHz to 2.5 GHz is available at additional cost.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contact or stainless steel male contact.

WEIGHT: 850 g (1 lb, 14 oz)

Model #	DIM A	Connector Type
1439-1	12.7 (0.50)	2.92mm female
1439-2	14.0 (0.55)	2.92mm male
1439-3	15.0 (0.59)	N female
1439-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1428 Model 1435 High Power, N or SMK Connectors Convection Cooled

dc to 1.5 GHz
dc to 6.0 GHz
150 Watts

☒ **RoHS**



Features

- /// **Low SWR** - Maximum SWR remains low through full frequency and power range.
- /// **Rugged Construction** - Quality connector with special high temperature support beads.

Specifications

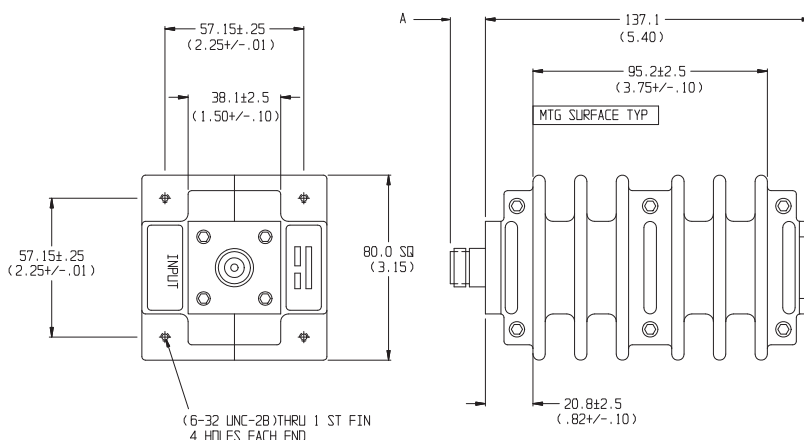
NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: Model 1428: dc to 1.5 GHz
Model 1435: dc to 6.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 2	1.10
2 - 6	1.15

INTERMODULATION (Model 1435-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +43 dBm each.

PHYSICAL DIMENSIONS:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

POWER RATING: 150 watts average (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 15 watts @ 125°C. 10 kilowatts peak (5 μ sec pulse width; 0.75% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 1.5 / 6.0 GHz is available at additional cost.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector.

Model 1428: Add M for male or F for female

Model 1435: Add -4 for male or -3 for female

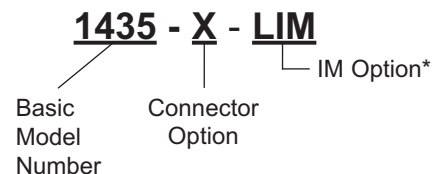
SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1). Model 1435 Only!

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contact or stainless steel male contact.

WEIGHT: 1,130 g (2 lbs, 8 oz)

MODEL NUMBER DESCRIPTION:

Example:



* Add -LIM to entire model number for Low Intermodulation option.

Model #	DIM A	Connector Type
1435-1	12.7 (0.50)	2.92mm female
1435-2	14.0 (0.55)	2.92mm male
F1428, 1435-3	15.0 (0.59)	N female
M1428, 1435-4	22.9 (0.90)	N male

Model 1448

High Power, 7/16 Connectors

Convection Cooled, Low IMD Design

dc to 6.0 GHz
150 Watts



Features

- /// Optimized for Wireless OEM and Test Applications.
- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Custom Designs Available.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 6	1.25

INTERMODULATION: Third Order Reflected Levels (IM3), -100 dBc with two input signals @ 869 MHz and 891 MHz with average carrier power levels of +43 dBm each.

POWER RATING: 150 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 15 watts @ 125°C. 10 kilowatts **peak** (5 μ sec pulse width; 0.75% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

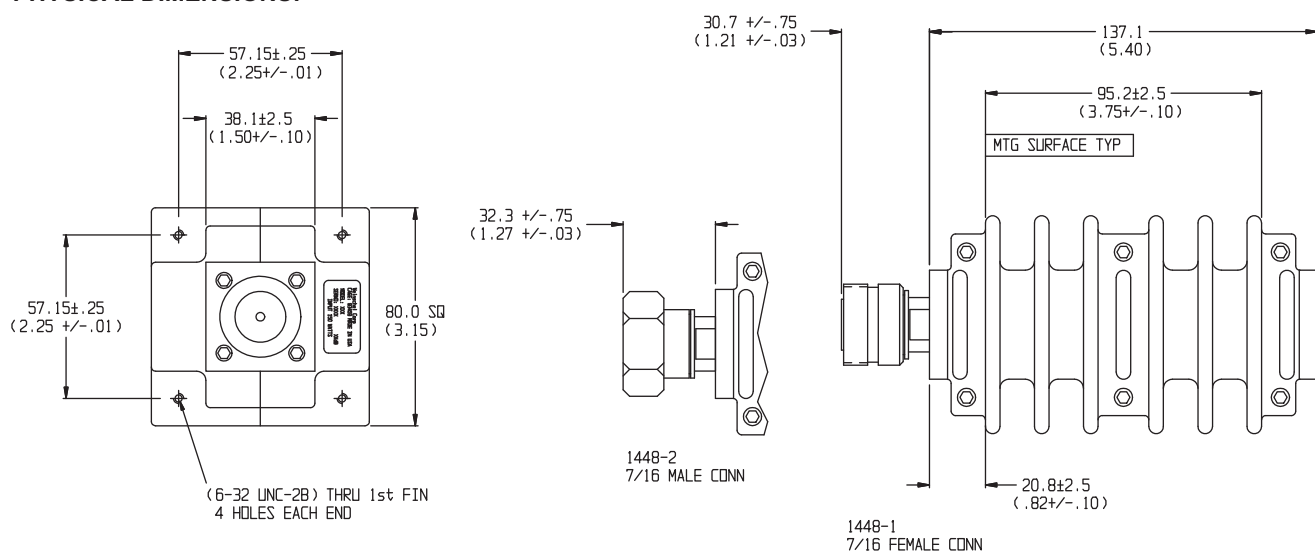
TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz is available at additional cost.

CONNECTOR: 7/16 connector that conforms to DIN 47 223, IEC 1694, VG 95250, CECC 22190. Choice of 7/16 male (-2) of 7/16 female (-1) connector.

CONSTRUCTION: Black, finned aluminum body, silver plated brass connector.

WEIGHT: 1,248 g (2.75 lbs)

PHYSICAL DIMENSIONS:

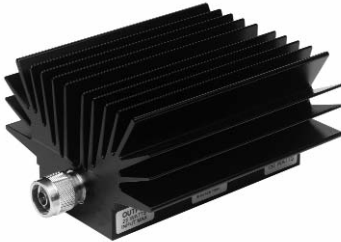


NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1432 High Power, N or SMK Connectors Convection / Conduction Cooled

dc to 10 GHz
150 Watts

☒ **RoHS**



Features

- /// **Flexible Mounting Position** - The units may be mounted in horizontal (fins up) or vertical position.
- /// **Rugged Construction** - Quality connector with special high temperature support bead.

Specifications

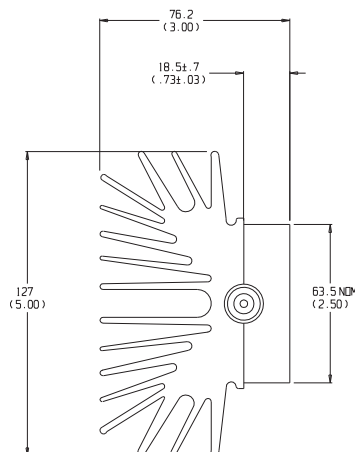
NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 10 GHz

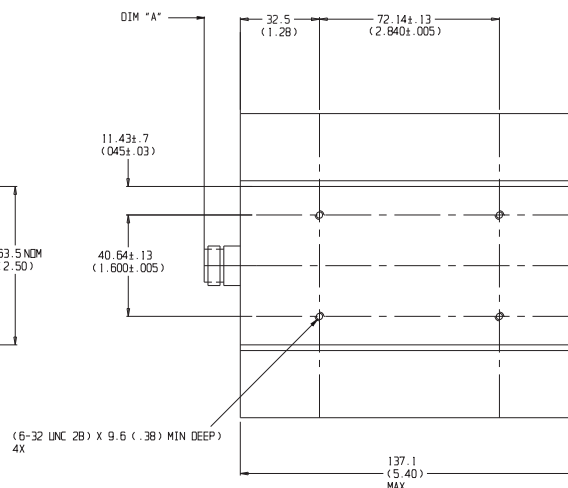
MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	1.20
4 - 10	1.30

INTERMODULATION (Model 1432-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +43 dBm each.

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1432-1	12.7 (0.50)	2.92mm female
1432-2	14.0 (0.55)	2.92mm male
1432-3	15.0 (0.59)	N female
1432-4	22.9 (0.90)	N male



POWER RATING: 150 watts average (mounted horizontally or vertically assuming unobstructed air flow and natural convection around unit) to 25°C ambient temperature, derated linearly to 15 watts @ 125°C. 5 kilowatts peak (5 μ sec pulse width; 1.5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 10 GHz is available at additional cost.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female (-3) connector.

SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contacts and stainless steel male contacts.

WEIGHT: 1,450 g (3 lbs., 3 oz.)

MODEL NUMBER DESCRIPTION:

Example:

1432 - X - LIM
 Basic Model Number Connector Option IM Option*

* Add -LIM to entire model number for Low Intermodulation option.

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1433 High Power, N Connectors Convection Cooled

dc to 6.0 GHz
250 Watts

 **RoHS**



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Low SWR** - Maximum SWR remains low through full frequency and power range.
- /// **Rugged Construction** - Quality connector with special high temperature support beads.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 2	1.10
2 - 6	1.15

INTERMODULATION (Model 1433-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +43 dBm each.

POWER RATING: 250 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 25 watts @ 125°C. 10 kilowatts **peak** (5 μ sec pulse width; 1.25% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz is available at additional cost-----.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contact or stainless steel male contact.

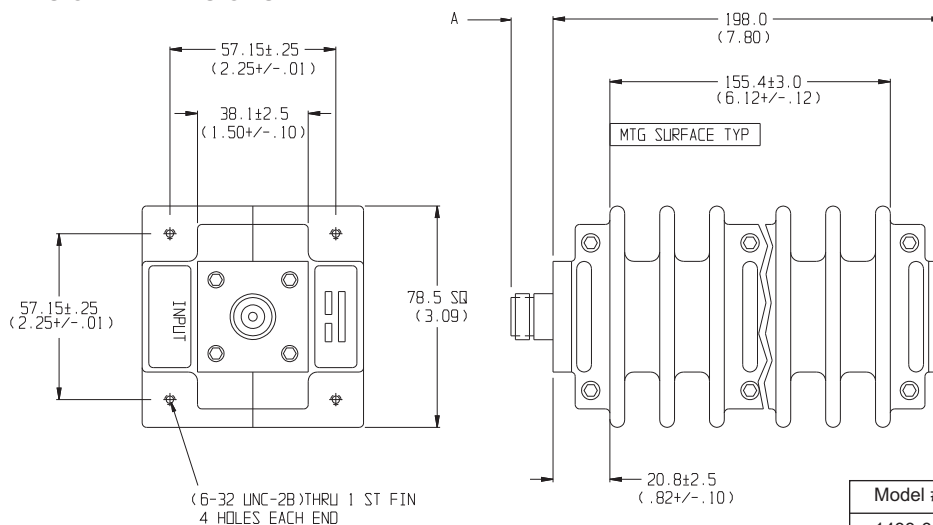
WEIGHT: Net 1,530 g (3 lbs., 6 oz.) maximum

MODEL NUMBER DESCRIPTION:

Example:

1433 - X - LIM
 Basic Model Number Connector Option IM Option*

PHYSICAL DIMENSIONS:



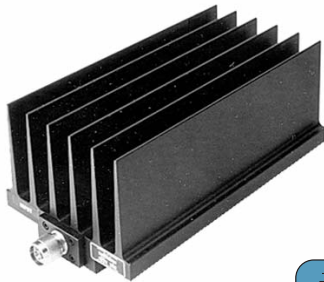
* Add -LIM to entire model number for Low Intermodulation option.

Model #	DIM A	Connector Type
1433-3	15.0 (0.59)	N female
1433-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1434 High Power, N Connectors Convection Cooled

dc to 2.5 GHz
500 Watts



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Low SWR** - Maximum SWR remains low through full frequency and power range.
- /// **Rugged Construction** - Quality connector with special high temperature support bead.

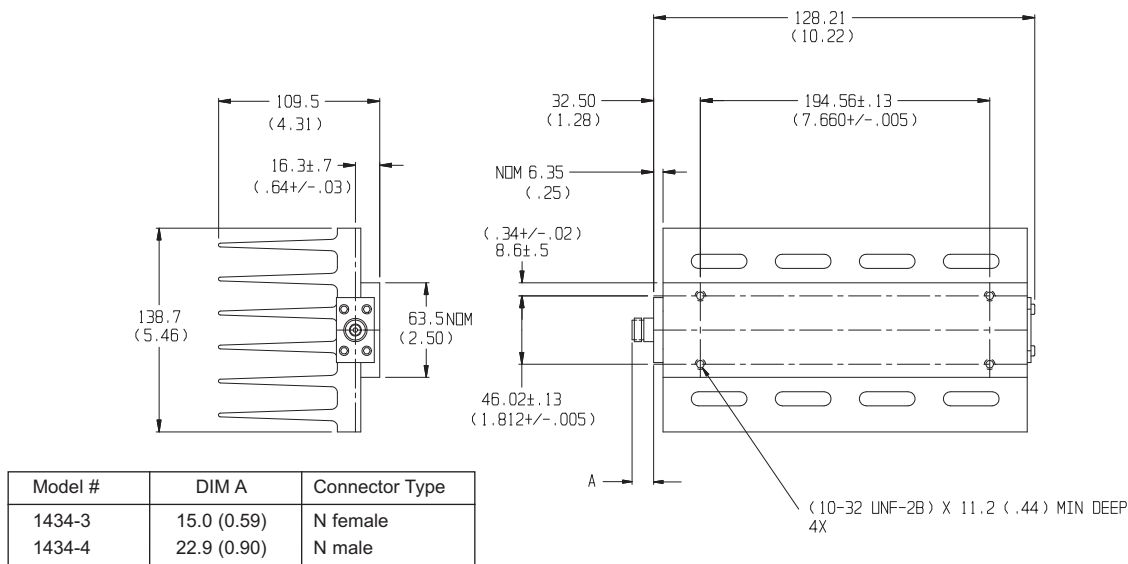
Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 2.5 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 2.5	1.10

PHYSICAL DIMENSIONS:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

INTERMODULATION (Model 1434-X-LIM Only): IM3 (Reflected) = -100 dBc with two input signals @ 869 MHz and 891 MHz with an average power of +43 dBm each.

POWER RATING: 500 watts **average** (mounted horizontally assuming unobstructed air flow and natural convection around unit) @ 25°C ambient temperature, derated linearly to 50 watts @ 125°C. 10 kilowatts **peak** (5 μ sec pulse width; 2.5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 2.5 GHz is available at additional cost.

CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female (-3) connector.

CONSTRUCTION: Black, finned aluminum body, stainless steel connector; gold plated beryllium copper female contacts and stainless steel male contacts.

WEIGHT: 3,640 g (8 lbs.)

MODEL NUMBER DESCRIPTION:

Example:

1434 - X - LIM

Basic Model Number Connector Option IM Option*

* Add -LIM to entire model number for Low Intermodulation option.

Model 1456 High Power, N Connectors Convection Cooled

dc to 3.0 GHz
1,000 Watts



Features

- /// Quality Type N connectors with special high temperature support beads.
- /// Designed to meet environmental requirements of MIL-D-39030.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 3.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 1.5	1.15
1.5 - 3.0	1.25

POWER RATING: 1,000 watts **average** (assuming unobstructed air flow and natural convection around unit) to 25°C ambient temperature, derated linearly to 100 watts @ 125°C. 10 kilowatt **peak** (5 μ sec pulse width; 5% duty cycle).

TEMPERATURE RANGE: -55°C to +125°C with Power derating applied.

TEST DATA: Swept data plots of SWR from 50 MHz to 3 GHz is available at additional cost.

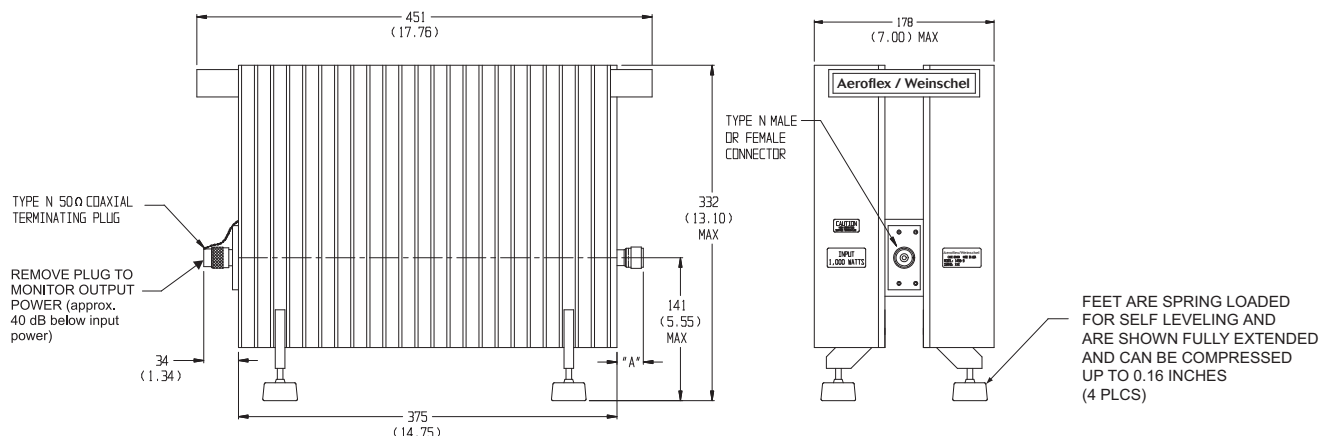
CONNECTOR: Type N connectors - mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
3	Type N, Female
4	Type N, Male

CONSTRUCTION: Black, finned aluminum body, stainless steel or silver plated brass connectors with gold plated beryllium copper or silver plated contacts.

WEIGHT: Net 13 kg (28.7 lbs) maximum

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1456-3	15.0 (0.59)	N female
1456-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Models 1474 SMK Connectors Conduction Cooled

dc to 40.0 GHz
5 Watts

 **RoHS**



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Rugged Construction** - Quality connector with special high temperature support bead.
- /// **Ideal for Space & Airborne Applications**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 40.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 26.5	1.25
26.5 - 40	1.45

POWER RATING: 5 watts **average (bi-directional)** with case temperature limited to 100 °C with appropriate conductive heat sink. 200 watts **peak** (5 μ sec pulse width; 1.25% duty cycle).

TEMPERATURE COEFFICIENT: <0.0004 dB/dB/°C

TEMPERATURE RANGE: -55 °C to 100 °C (case)

TEST DATA: Swept data plots of attenuation and SWR from 50 MHz to 40 GHz is available at additional cost.

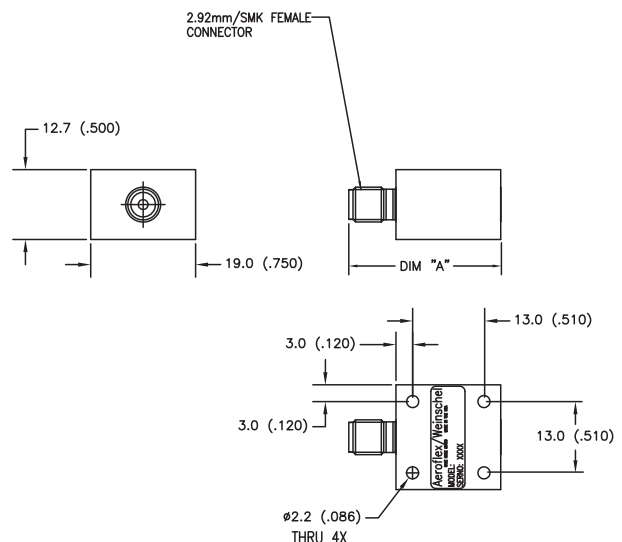
CONNECTORS: SMK (2.92mm) Male/Female connectors - mate nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm connectors.

Connector Options	Type/Description
1	SMK, Female
2	SMK, Male

CONSTRUCTION: Aluminum body, gold plated beryllium copper contacts.

WEIGHT: 17 g (0.6 oz.) maximum

PHYSICAL DIMENSIONS:



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1441

Medium Power, N or SMK Connectors

Conduction Cooled

dc to 4.0 GHz

50 Watts



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Rugged Construction** - Quality connector with special high temperature support bead.
- /// **Ideal for Wireless Applications.**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 4.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 4	1.15

POWER RATING: 50 watts **average**, 5 kilowatts **peak** (5 μ sec pulse width; 0.5% duty cycle) with case temperature held within **100°C maximum** with appropriate conductive heatsink.

TEMPERATURE RANGE: -55°C to 100°C case.

TEST DATA: Swept data plots of SWR from 50 MHz to 4 GHz is available at additional cost.

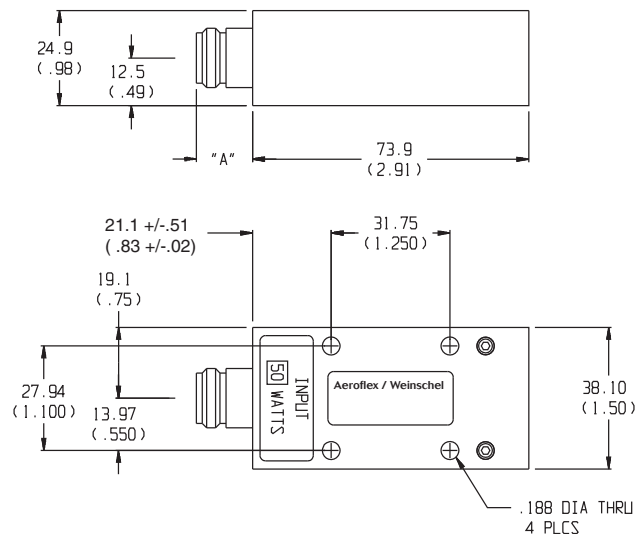
CONNECTOR: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female (-3) connector.

SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Aluminum alloy body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: Net 170g (6 oz.) maximum

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1441-1	12.7 (0.50)	2.92mm female
1441-2	14.0 (0.55)	2.92mm male
1441-3	15.0 (0.59)	N female
1441-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Models 1458 Medium Power, 3.5mm Connectors Conduction Cooled

dc to 22.0 GHz
50 Watts



Features

- /// **Compact Construction** - Lowest size/power ratio.
- /// **Rugged Construction** - Quality connector with special high temperature support bead.
- /// **Ideal for Space & Airborne Applications**

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 22.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 22.0	1.30

POWER RATING: 50 watts **average**, 1 kilowatts **peak** (5 μ sec pulse width; 2.5% duty cycle) with case temperature held within **90°C maximum** with appropriate conductive heatsink.

TEMPERATURE RANGE: -55°C to 90°C case.

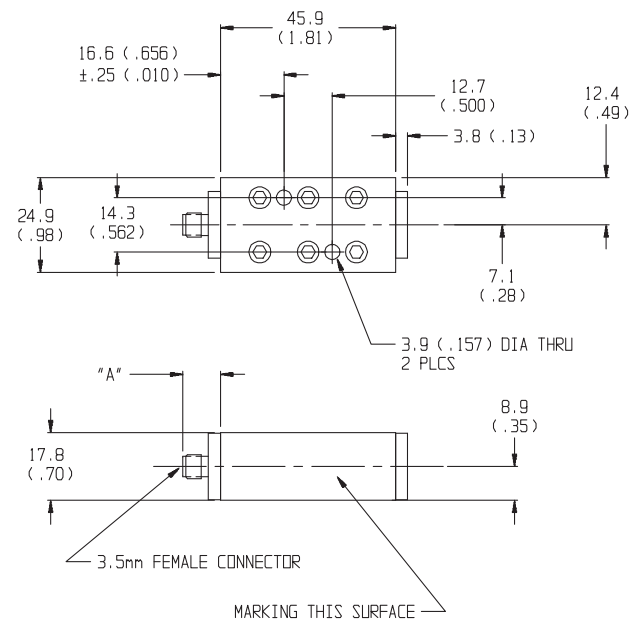
TEST DATA: Swept data plots of SWR from 50 MHz to 22 GHz is available at additional cost.

CONNECTOR: 3.5mm connectors - mate nondestructively with SMA per MIL-C-39012, 2.92mm, and other 3.5mm connectors. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Aluminum alloy body, stainless steel connector; gold plated beryllium copper contacts.

WEIGHT: Net 56 g (1.9 oz) maximum

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1458-1	9.9 \pm 0.5 (0.35 \pm 0.02)	3.5mm female
1458-2	13.4 \pm 0.5 (0.53 \pm 0.02)	3.5mm male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

Model 1470 High Power, N or SMK Connectors Conduction Cooled



dc to 6.0 GHz
100 Watts



connectors; gold plated beryllium copper contacts.

WEIGHT: 300 g (10.6 oz.) maximum

PHYSICAL DIMENSIONS:

Features

- /// Precision Connectors with high temperature support beads.
- /// Designed to meet environmental requirements of MIL-DTL-3933.
- /// 10 Kilowatts peak, Conduction Cooled
- /// Wireless Applications - Optimized for use in the communications bands.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 6	1.20

3rd ORDER INTERMODULATION (1470-X-LIM ONLY): Reflected Levels (IM3), -100 dBc with two input signals @ 869 MHz and 891 MHz with average carrier power levels of +43 dBm each.

POWER RATING (mounted horizontally): 100 watts average (unidirectional), 10 kilowatt peak (5 μ sec pulse width; 0.5% duty cycle) with case temperature held within **100 °C maximum** with appropriate conductive heat sink.

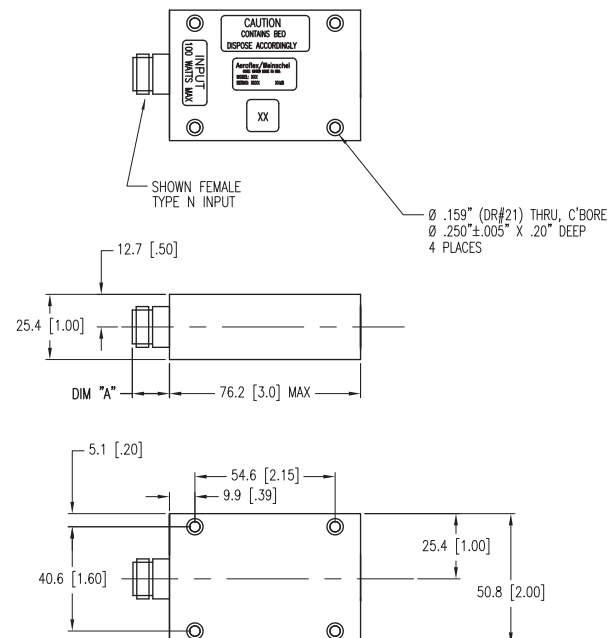
TEMPERATURE RANGE: -55°C to 100°C

TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz is available at additional cost.

CONNECTORS: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Aluminum alloy body, stainless steel



Model #	DIM A	Connector Type
1470-1	12.7 (0.50)	2.92mm female
1470-2	14.0 (0.55)	2.92mm male
1470-3	15.0 (0.59)	N female
1470-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

1470 - X - LIM

Basic Model Number
Connector Options
1st digit is input side
2nd digit is output side
IM Option*

* Add -LIM to entire model number for Low Intermodulation option.

Model 1471 High Power, N or SMK Connectors Conduction Cooled



dc to 6.0 GHz
250 Watts



Features

- /// Precision Connectors with high temperature support beads.
- /// Designed to meet environmental requirements of MIL-DTL-3933.
- /// 10 Kilowatts peak, Conduction Cooled
- /// Wireless Applications - Optimized for use in the communications bands.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 6	1.20

3rd ORDER INTERMODULATION (1471-X-LIM ONLY): Reflected Levels (IM3), -100 dBc with two input signals @ 869 MHz and 891 MHz with average carrier power levels of +43 dBm each.

POWER RATING: 250 watts **average (unidirectional)**, 10 kilowatt **peak** (5 μ sec pulse width; 1.25% duty cycle) with case temperature held within **100 °C maximum** with appropriate conductive heat sink.

TEMPERATURE RANGE: -55°C to 125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz is available at additional cost.

CONNECTORS: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

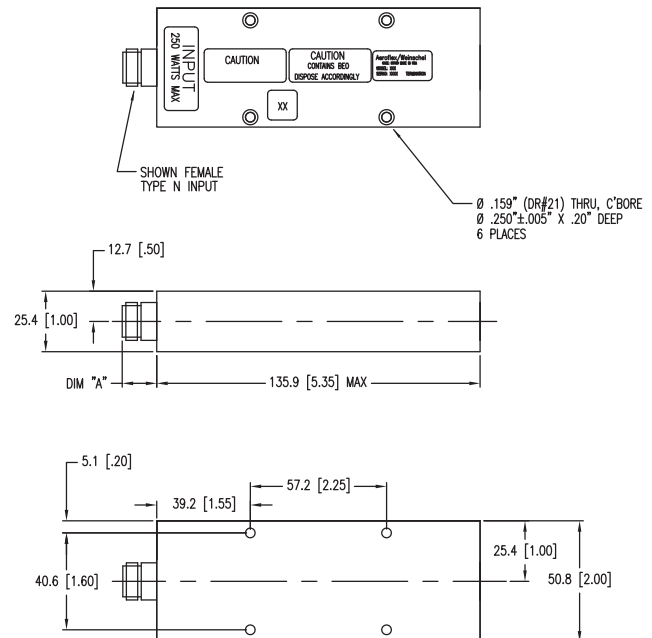
SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Aluminum alloy body, stainless steel

connectors; gold plated beryllium copper contacts.

WEIGHT: 500 (17.6 oz.) maximum

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1471-1	12.7 (0.50)	2.92mm female
1471-2	14.0 (0.55)	2.92mm male
1471-3	15.0 (0.59)	N female
1471-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

1471 - X - LIM

Basic
Model
Number

Connector Options
1st digit is input side
2nd digit is output side

IM Option*

* Add -LIM to entire model number for Low Intermodulation option.

Model 1472 High Power, N or SMK Connectors Conduction Cooled



dc to 6.0 GHz
400 Watts

 **RoHS**



Features

- /// Precision Connectors with high temperature support beads.
- /// Designed to meet environmental requirements of MIL-DTL-3933.
- /// 10 Kilowatts peak, Conduction Cooled
- /// Wireless Applications - Optimized for use in the communications bands.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 6	1.20

3rd ORDER INTERMODULATION (1472-X-LIM ONLY): Reflected Levels (IM3), -100 dBc with two input signals @ 869 MHz and 891 MHz with average carrier power levels of +43 dBm each.

POWER RATING: 400 watts **average (unidirectional)**, 10 kilowatt **peak** (5 μ sec pulse width; 2.0% duty cycle) with case temperature held within **100 °C maximum** with appropriate conductive heat sink.

TEMPERATURE RANGE: -55°C to 125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz is available at additional cost.

CONNECTORS: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

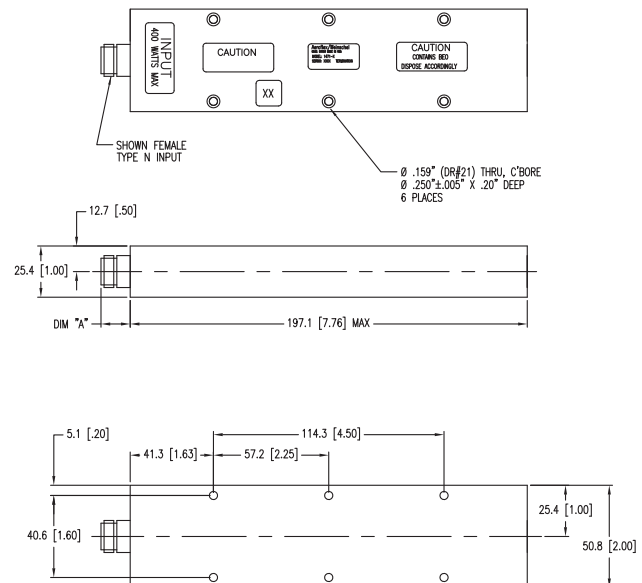
SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Aluminum alloy body, stainless steel

connectors; gold plated beryllium copper contacts.

WEIGHT: 700 g (24.6 oz.) maximum

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1472-1	12.7 (0.50)	2.92mm female
1472-2	14.0 (0.55)	2.92mm male
1472-3	15.0 (0.59)	N female
1472-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

1472 - X - LIM

Basic Model Number

Connector Options

1st digit is input side

2nd digit is output side

IM Option*

* Add -LIM to entire model number for Low Intermodulation option.

Model 1473

High Power, N or SMK Connectors
Conduction Cooled



dc to 6.0 GHz
550 Watts

RoHS



Features

- /// Precision Connectors with high temperature support beads.
- /// Designed to meet environmental requirements of MIL-DTL-3933.
- /// 10 Kilowatts peak, Conduction Cooled
- /// Wireless Applications - Optimized for use in the communications bands.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 6.0 GHz

MAXIMUM SWR:

Frequency (GHz)	SWR
dc - 6	1.20

3rd ORDER INTERMODULATION (1473-X-LIM ONLY): Reflected Levels (IM3), -100 dBc with two input signals @ 869 MHz and 891 MHz with average carrier power levels of +43 dBm each.

POWER RATING: 550 watts **average (unidirectional)**, 10 kilowatt **peak** (5 μ sec pulse width; 2.75% duty cycle) with case temperature held within **100 °C maximum** with appropriate conductive heat sink.

TEMPERATURE RANGE: -55°C to 125°C

TEST DATA: Swept data plots of SWR from 50 MHz to 6 GHz is available at additional cost.

CONNECTORS: Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

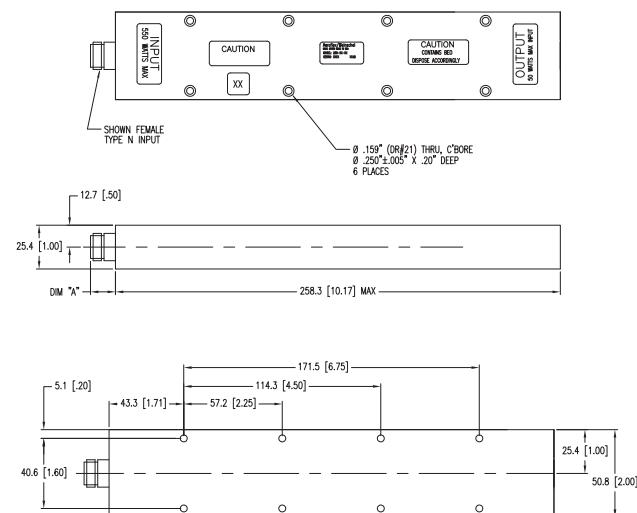
SMK (2.92mm) connector mates nondestructively with SMA per MIL-C-39012, 3.5mm and other 2.92mm (SMK) connector. Choice of male (-2) or female connector (-1).

CONSTRUCTION: Aluminum alloy body, stainless steel

connectors; gold plated beryllium copper contacts and stainless steel male contacts.

WEIGHT: 900 g (31.7 oz.)

PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1473-1	12.7 (0.50)	2.92mm female
1473-2	14.0 (0.55)	2.92mm male
1473-3	15.0 (0.59)	N female
1473-4	22.9 (0.90)	N male

NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

MODEL NUMBER DESCRIPTION:

Example:

1473 - X - LIM

Basic Model Number Connector Options
1st digit is input side 2nd digit is output side

IM Option*

* Add -LIM to entire model number for Low Intermodulation option.

Model 1591 TNC Connectors Simplifies Test Setups

dc to 2.0 GHz
1 Watt



Features

- /// Miniature Size & Lightweight.
- /// 3-Port Cal Design for wireless communication test applications.

Specifications

NOMINAL IMPEDANCE: 50 Ω

FREQUENCY RANGE: dc to 2.0 GHz

MAXIMUM INPUT POWER: 2 watt CW, 500 watt pulse

PHYSICAL DIMENSIONS:

MAXIMUM SWR (Load Port):

Frequency (GHz)	SWR
dc - 1	1.05
1 - 2	1.35

MAXIMUM PHASE TRACKING (Short / Open):

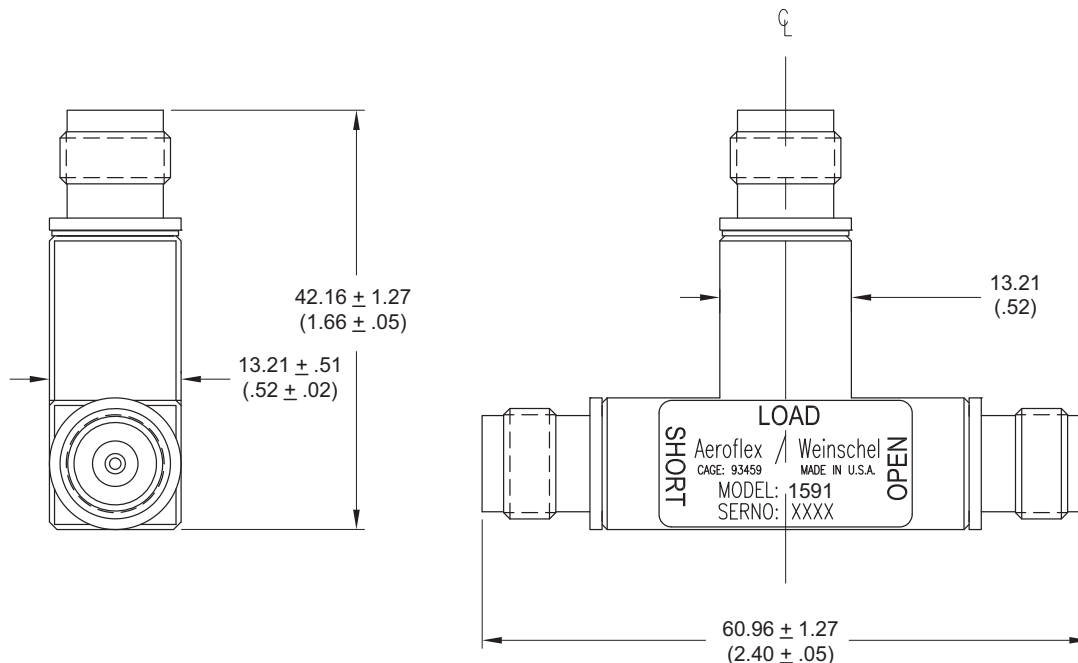
Frequency (GHz)	Tracking $^{\circ}$
dc - 1	3 $^{\circ}$
1 - 2	7 $^{\circ}$

TEMPERATURE RANGE: -55 $^{\circ}$ C to +125 $^{\circ}$ C

CONSTRUCTION: Aluminum body and connectors; gold plated beryllium copper contacts.

TEST DATA: Test data can be provided at additional cost.

CONNECTORS: Female TNC connectors all ports-- - mate nondestructively with MIL-C-39012 connectors.



NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified