

# 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](http://www.argosysales.com) or 800-542-4457. Check with distributor for current products and stocking quantities.



## Terminations . . . dc-50 GHz, 1 to 25 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	167	
★ 1406A ★ 1408	dc-18.0	2	0.5	1.05-1.21* 1.04-1.15*	SMA	168	
★ RS3016	dc-18.0	1	0.25	105-1.20*	SMA (Male only)	166	
★ 1418	dc-18.0	10	1	1.15-1.40*	N	179	
★ 1419	dc-18.0	10	1	1.20-1.35*	SMA	176	
★ 1424	dc-12.4	5	5	1.03-1.30*	N	173	
★ 1425	dc-12.4	10	1	1.03-1.40*	N	178	
★ 1427	dc-10.0	25	5	1.10-1.30*	N or 2.92mm	181	
★ 1429	dc-18.0	25	1	1.20	N or 3.5mm	182	
★ F1437RA M1437RA	dc-6.0	2	0.25	1.05-1.10* 1.15-1.20*	SMA (Female) SMA (Male)	166	
★ 1443A	dc-18.0	5	0.5	1.20	2.92mm	174	
★ 1444	dc-26.5	25	0.5	1.25	3.5mm	183	
1445A	dc-40.0	5	0.2	1.20-1.35*	2.92mm	175	
★ 1452	dc-4.0	25	5	1.10-1.20*	N or 2.92mm	180	
★ 1453	dc-8.5	10	1	1.15-1.25*	N	177	
★ 1455	dc-18.0	2	1	1.20-1.30*	N	169	
★ 1459/A	dc-40.0	2	0.5	1.10-1.25*	2.92mm	171	
1460/A	dc-50.0	2	0.5	1.10-1.22*	2.4mm	172	
1465/A	dc-32.0	2	0.5	1.06-1.15*	3.5mm	170	

\* VARIES WITH FREQUENCY.















★ EXPRESS Shipment available via [www.argosysales.com](http://www.argosysales.com) or 800-542-4457.

Note: Other models may also be available from Express delivery.

# Terminations & Loads



## Terminations . . . dc-26.5 GHz, 50-1000 Watts










Model Number	Frequency Range (GHz)	Average Power (Watts)	Peak Power (kW)	SWR	Connector Type	Page No.	
★ 1426	dc-8.5	50	5	1.20-1.30*	N or 2.92mm	185	
★ 1428	dc-1.5	150	10	1.10-1.15*	N	191	
★ 1430	dc-18.0	50	1	1.15-1.30*	N or 3.5mm	186	
★ 1431	dc-18.0	100	1	1.20-1.30*	N or 3.5mm	190	
1432	dc-8.5	150	5	1.20-1.30*	N	193	
★ 1433	dc-5.0	250	10	1.10-1.15*	N	194	
★ 1434	dc-2.5	500	10	1.10	N	195	
★ 1435	dc-5.0	150	10	1.10-1.15*	N	191	
★ 1439	dc-2.5	150	10	1.20	N	192	
★ 1440	dc-4.0	100	10	1.15	N	188	
★ 1441	dc-4.0	50	5	1.15	N	184	
1442	dc-8.5	100	5	1.20-1.30*	N	189	
1456	dc-3.0	1,000	10	1.15-1.25*	N	196	
1458	dc-22.0	50	1	1.30	3.5mm	187	

\* VARIES WITH FREQUENCY.

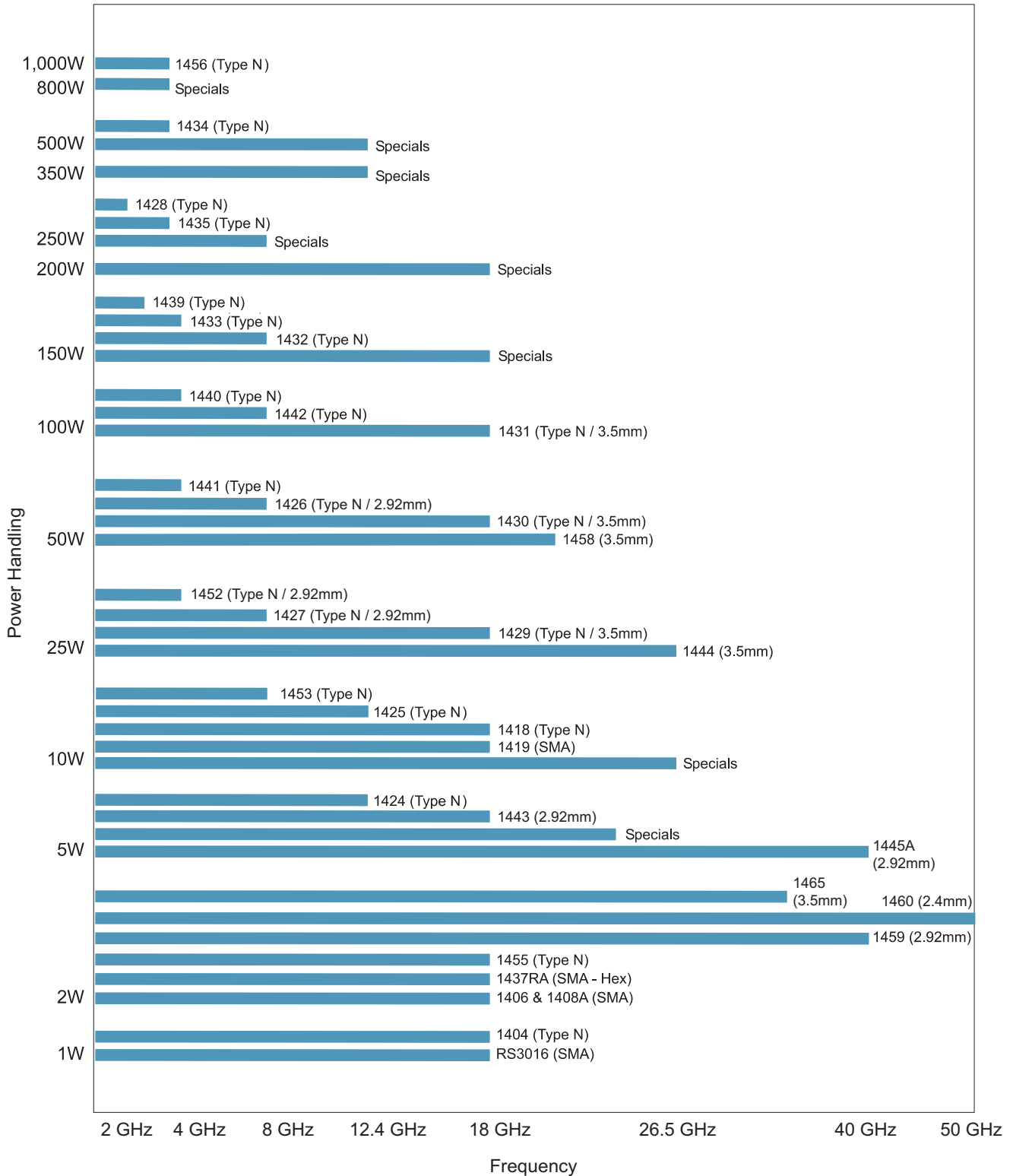
★ EXPRESS Shipment available via [www.argosysales.com](http://www.argosysales.com) or 800-542-4457.

Note: Other models may also be available from Express delivery.

## Low IM Terminations . . . dc-18 GHz, 25 to 500 Watts

Model Number	Frequency Range (GHz)	Average Power (Watts)	Peak Power (kW)	SWR	Connector Type	Page No.	
1426	dc-8.5	50	5	1.20-1.30*	N or 2.92mm	185	
1427	dc-10.0	25	5	1.10-1.15*	N or 2.92mm	181	
1429	dc-18.0	25	1	1.20	N or 3.5mm	182	
1430	dc-18.0	50	1	1.15-1.30*	N or 3.5mm	186	
1431	dc-18.0	100	1	1.20-1.30*	N or 3.5mm	190	
1435	dc-5.0	150	5	1.10-1.15*	N	191	
1432	dc-8.5	150	5	1.20-1.30*	N	193	
1433	dc-5.0	250	10	1.10-1.15*	N	194	
1434	dc-2.5	500	10	1.10	N	195	

## 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.

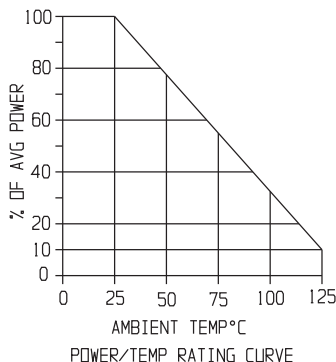
### Can Aeroflex / Weinschel provide special terminations?

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

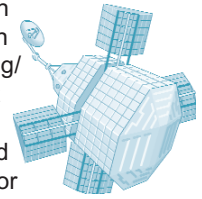


is calculated by using catalog specifications and a straight line graph. For instance the power rating of the Model 1430 attenuator is 100 watts at 25°C ambient and 10 watts at 125°C. Using linear graph paper, plot a straight line between these two points. This plot shows that the power rating at 75°C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

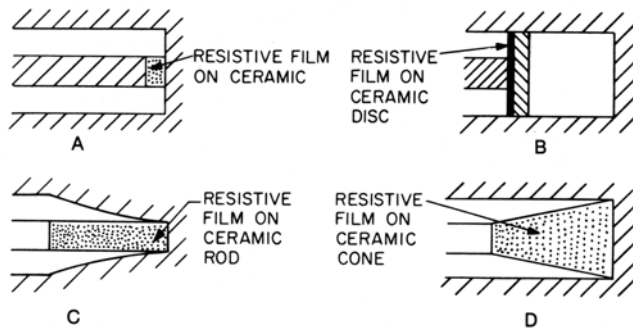
# Terminations & Loads



## 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 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



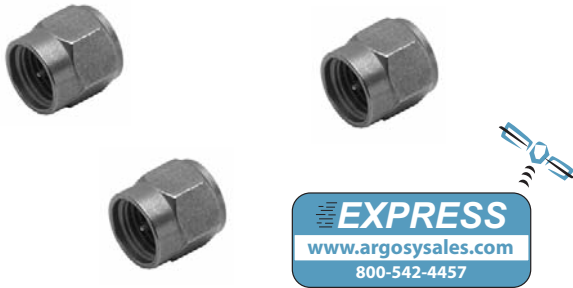


## Model 1437RA Model RS3016 Subminiature Coaxial Terminations

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

Low Cost, SMA Connector

 **RoHS**



### 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 μsec pulse width; 0.05% duty cycle).

**Model RS3016:** 1.0 watts **average** @ 25°C ambient temperature, derated linearly to 0 watts @ 125°C. 250 watts **peak** maximum (5 μsec pulse width; 0.05% 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

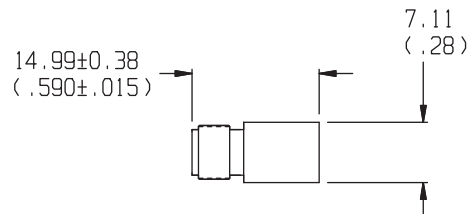
**CONNECTOR:** **Model 1437RA:** SMA connectors - mate nondestructively with MIL-C-39012 connectors. Choice of male or female connector, prefix model number with M for male and F for female. **Model RS3016** available in SMA male only!

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

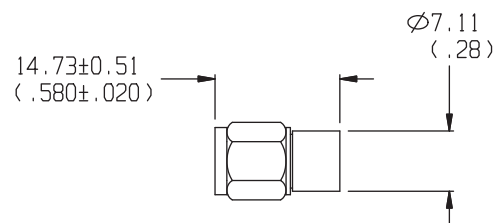
**WEIGHT:** M1437RA: 3.0 g (0.11 oz)  
F1437RA: 4.0 g (0.14 oz)  
RS3016: 2.3 g (0.08 oz)

#### PHYSICAL DIMENSIONS:

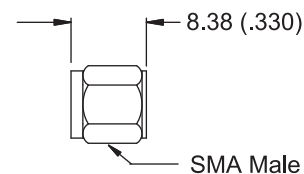
##### Model F1437RA:



##### Model M1437RA:



##### Model RS3016 (male only):



#### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. RS3016 available with RoHS compliant materials, specify when ordering.



## Model 1404N Precision Coaxial Termination

dc to 18.0 GHz  
1 Watt

Lab Standard N Connectors



### 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.

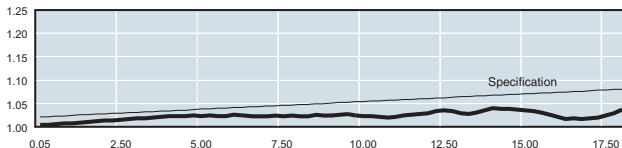
### Specifications

**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 μsec pulse width; 0.05 % duty cycle).

MAXIMUM SWR:	
Model	SWR
F1404N	≤ 1.04 + 0.0023f (GHz)
M1404N	≤ 1.02 + 0.0033f (GHz)



Typical M1404N SWR Performance

**TEMPERATURE RANGE:** -55°C to +85°C

**TEST DATA:** SWR and other test data can be provided at additional cost.

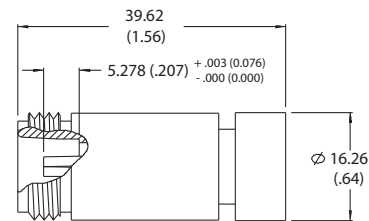
**CONNECTOR:** Type N connector - mates nondestructively with MIL-C-39012 connector. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

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

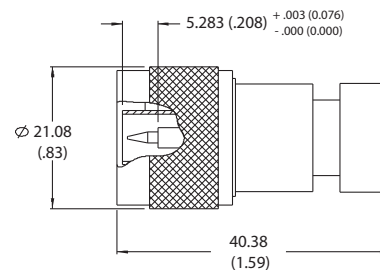
**WEIGHT:** Net, 110 g (4 oz)

### PHYSICAL DIMENSIONS:

MODEL F1404N:



MODEL M1404N:



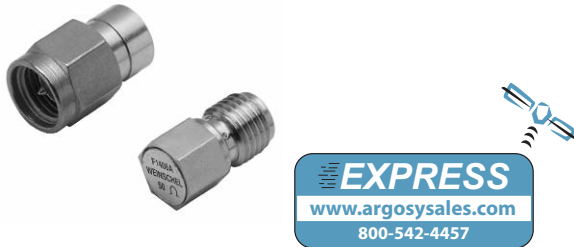
### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

## Models 1406A & 1408 Subminiature Coaxial Termination

dc to 18.0 GHz  
2 Watts

### Ruggedized SMA Connector



### 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.**

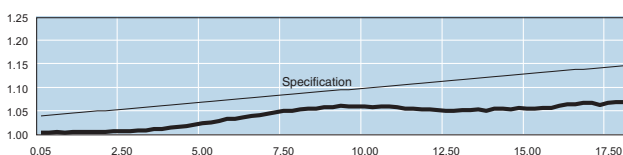
### Specifications

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

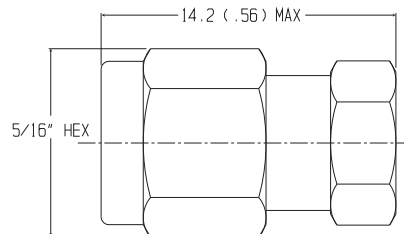
**CONNECTOR:** SMA connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

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

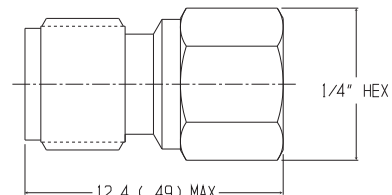
**WEIGHT:** Male Connector: 2.8 g (0.1 oz)  
Female Connector: 1.4 g (0.05 oz)

### PHYSICAL DIMENSIONS:

#### M1406 / M1408:



#### F1406 / F1408:



### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

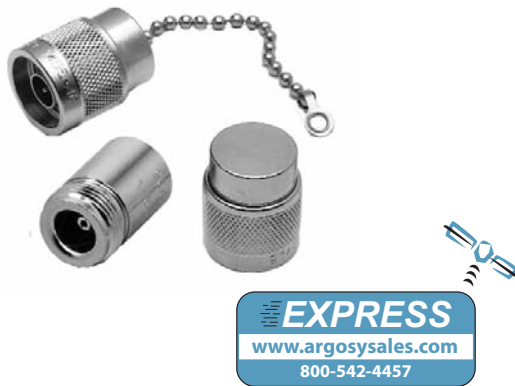
# Terminations & Loads



## Model 1455 General Purpose Coaxial Termination

dc to 18.0 GHz  
2 Watt

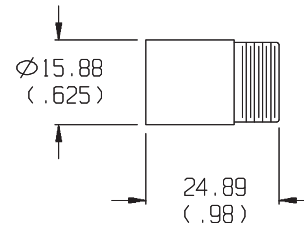
Low Cost, Type N Connector



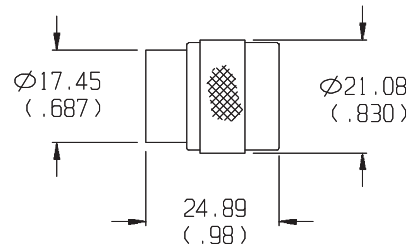
**WEIGHT:** 110 g (4 oz) maximum

**PHYSICAL DIMENSIONS:**

**Model 1455-3:**



**Model 1455-4:**



### 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 μsec pulse width; 0.05 % duty cycle)

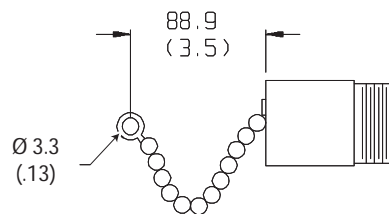
**TEMPERATURE RANGE:** -65°C to +125°C

**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:

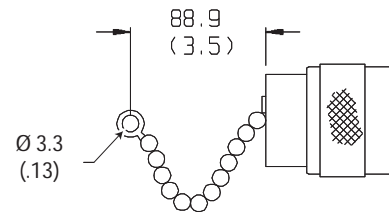
Model	Connector Type
1455-4	Type N Male
1455-3	Type N Female
1455-4C	Type N Male with chain
1455-3C	Type N Female with chain

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

**Model 1455-3C:**



**Model 1455-4C:**



**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

## Model 1465 Precision Coaxial Termination

dc to 32.0 GHz  
2 Watt

### 3.5mm Connector



### Features

- /// High Performance - Precision Lab Grade
- /// Subminiature Size and Lightweight - All models are approximately 0.5 inches long, and weigh less than 3 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 μsec 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

**OPERATING TEMPERATURE:** -50°C to +100°C

**STORAGE TEMPERATURE:** -50°C to +125°C

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

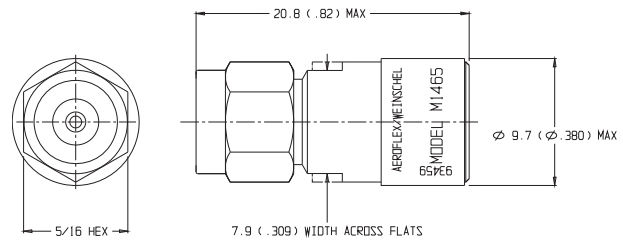
**CONNECTOR:** Male or Female 3.5mm connector - mate nondestructively with SMA, SMK, 2.92mm, and other 3.5mm connectors. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

**PIN RECESSION:** 0.003 maximum (male and female connectors)

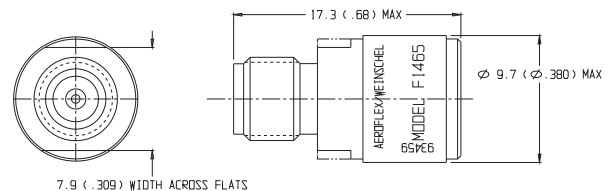
**WEIGHT:** 6.0 g (0.17 oz) maximum

#### 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 Coaxial Termination

dc to 40.0 GHz  
2 Watts

Ruggedized 2.92mm Connector



### Features

- /// High Performance - Precision Lab Grade
- /// Subminiature Size and Lightweight - All models are approximately 0.5 inches long, and weigh less than 3 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 μsec 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

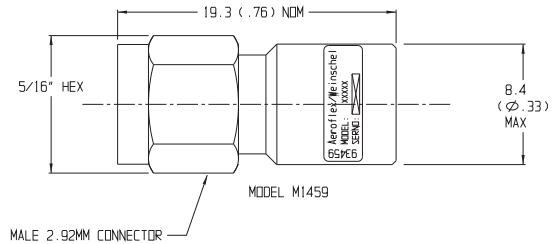
**TEST DATA:** SWR Testing performed across the frequency band. Test data is available at additional cost.

**CONNECTOR:** Ruggedized 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.

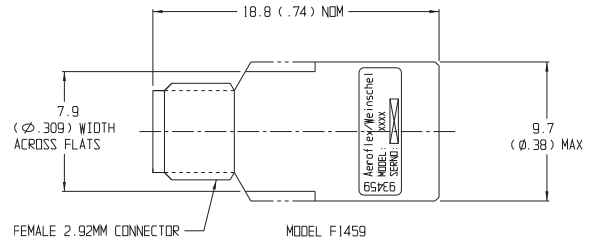
**WEIGHT:** 6.0 g (0.17 oz) maximum

### PHYSICAL DIMENSIONS:

**Model M1459/M1459A:**

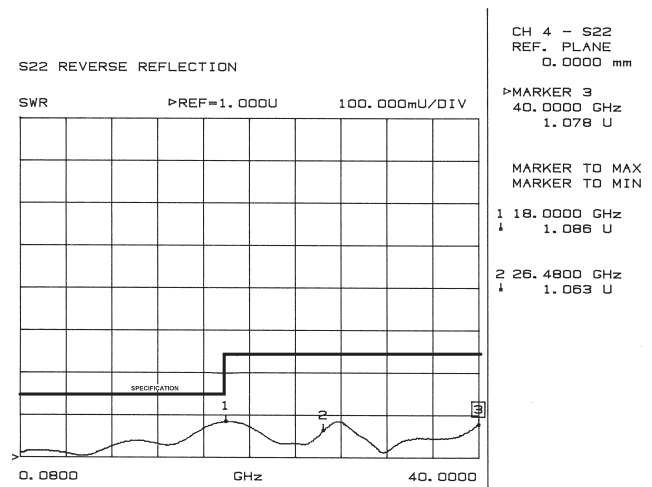


**Model F1459/F1459A:**



### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.



Typical M1459 SWR Performance

## Model 1460 Precision Coaxial Termination

dc to 50.0 GHz  
2 Watt

*Ruggedized 2.4mm Connector*



### Features

- /// High Performance - Precision Lab Grade
- /// Subminiature Size and Lightweight - All models are approximately 0.5 inches long, and weigh less than 3 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 μsec 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.

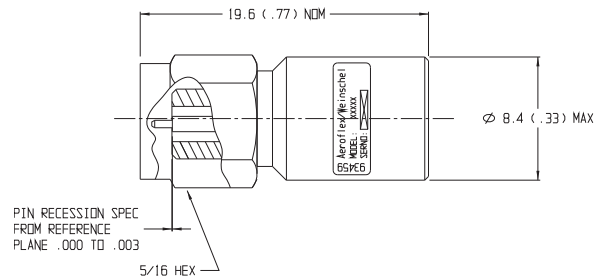
**CONNECTOR:** 2.4mm connector mates nondestructively with other 2.4mm connectors. Choice of male or female connector. When ordering, prefix model number with M for male and F for female.

**TEST DATA SUPPLIED:** SWR Sweep data provided between 120 MHz and 50 GHz.

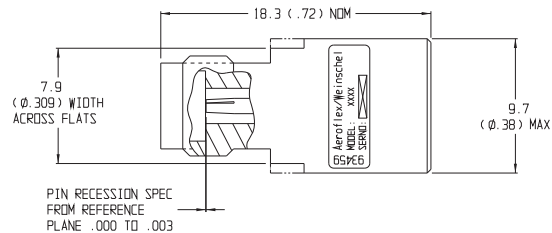
**WEIGHT:** 6.0 g (0.16 oz) maximum

### PHYSICAL DIMENSIONS:

**Model M1460/M1460A:**



**Model F1460/F1460A:**



### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

## Model 1424 Medium Power Coaxial Termination

dc to 12.4 GHz  
5 Watt

### Type N Connector



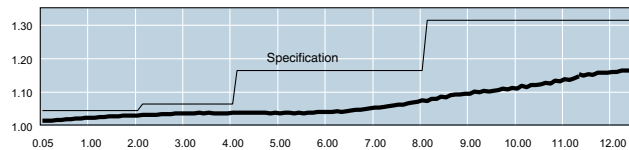
### Features

- /// **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 μsec pulse width; 0.05 % duty cycle)  
**TEMPERATURE RANGE:** -55°C to +125°C

**TEST DATA:** Test data supplied at dc resistance and SWR at 2.0, 4.0, 8.0, and 12.0 GHz. Other test data can be provided at additional cost.

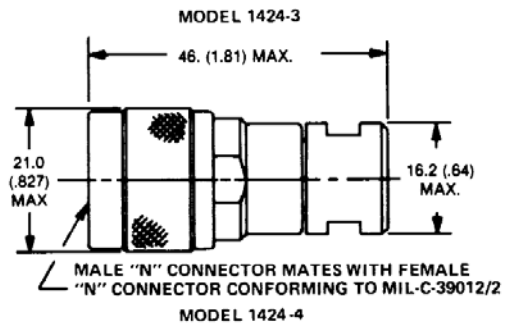
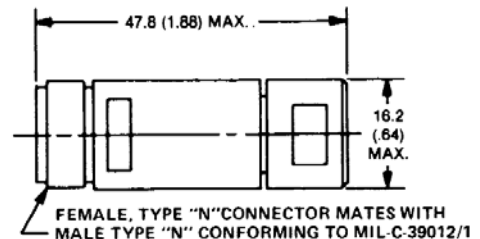
**CONNECTOR:** Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector.

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

**CONSTRUCTION:** Stainless steel connector; gold plated beryllium copper contacts

**WEIGHT:** Net 60 g (2 oz)

### PHYSICAL DIMENSIONS:



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

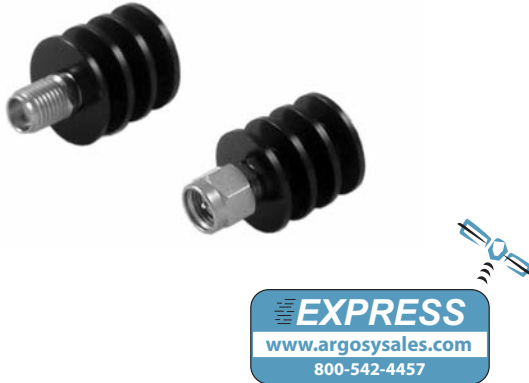


## Model 1443A Medium Power Coaxial Termination

dc to 18.0 GHz  
5 Watts

 **RoHS**

*SMA, Subminiature Design*



### 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 @ 125°C. 500 watts **peak** (5 μsec pulse width; 0.5% duty cycle).

**TEMPERATURE RANGE:** -55°C to +100°C

**TEST DATA:** SWR Testing performed across the frequency band. Test data 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 .

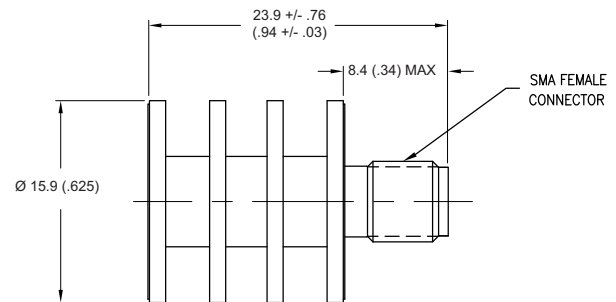
Choice of male (-2) or female (-1) connector.

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

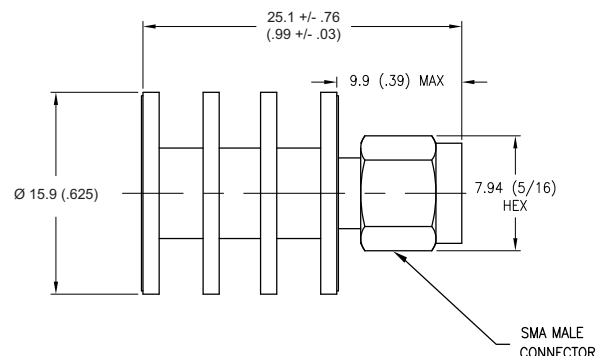
**WEIGHT:** 10 g (0.35 oz)

**PHYSICAL DIMENSIONS:**

#### Model 1443A-1:



#### Model 1443A-2:



#### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

# Terminations & Loads



## Model 1445A Medium Power Coaxial Termination

dc to 40.0 GHz  
5 Watts

### 2.92mm Connector



### 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 μsec pulse width; 1.25% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

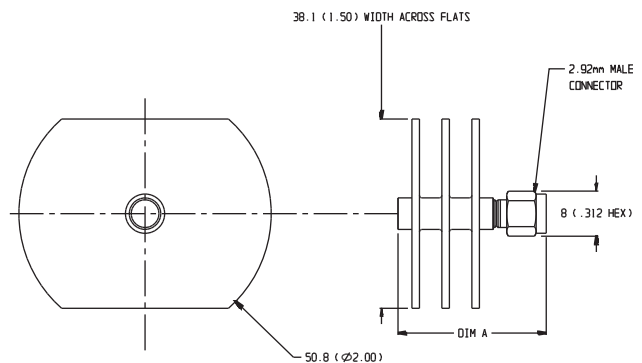
**TEST DATA:** SWR Testing performed across the frequency band. Test data is available at additional cost.

**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 Coaxial Termination

dc to 18.0 GHz  
10 Watts

### Ruggedized SMA Connector



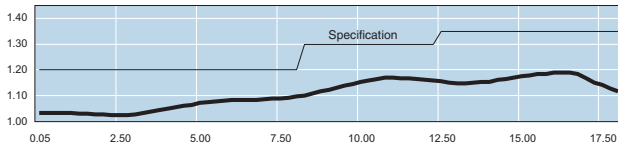
### Features

- /// **Miniature Size and Lightweight** - All models are approximately 1.6 inches long, and weigh less than 14 grams with male connector.
- /// **Quality connector with special high temperature support beads.**

### Specifications

**NOMINAL IMPEDANCE:** 50  $\Omega$   
**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  $\mu$ sec pulse width; 0.05% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

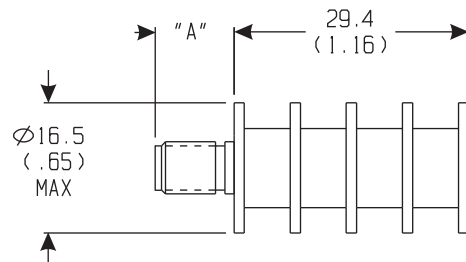
**TEST DATA:** SWR Testing performed across the frequency band. Test data is available at additional cost.

**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:** 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 Coaxial Termination

dc to 8.5 GHz  
10 Watts

Type N Connector

 **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 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 μsec pulse width; 0.05% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

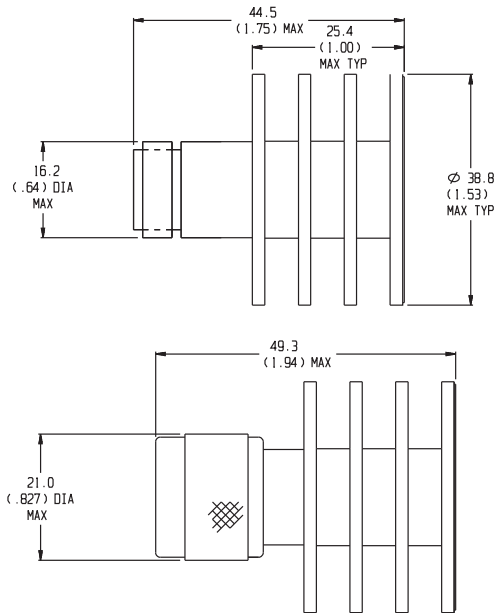
**TEST DATA:** SWR Testing performed across the frequency band. Test data is available at additional cost.

**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 contacts.

**WEIGHT:** 85 g (3 oz)

**PHYSICAL DIMENSIONS:**



**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

## Model 1425 Medium Power Coaxial Termination

dc to 12.4 GHz  
10 Watts

Type N Connector

**RoHS**



**TEMPERATURE RANGE:** -55°C to +125°C

**TEST DATA:** SWR Testing performed across the frequency band. Test data 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

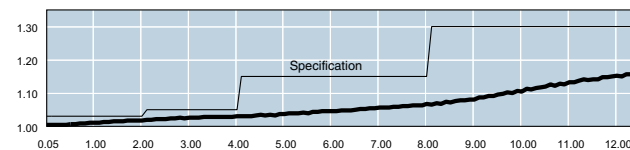
- /// **Quality Connectors** - Choice of male or female N connector that mate nondestructively with connector manufactured in accordance with MIL-C-39012.
- /// **Rugged Construction.**

### 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



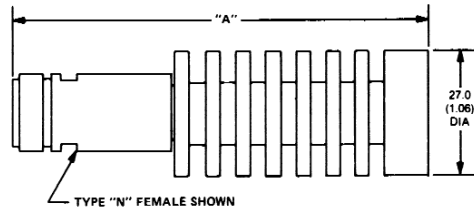
Typical 1425-4 SWR Performance

**POWER RATING:** 10 watts **average** (mounted **horizontally**) @ 25°C ambient temperature, derated linearly to 0 watts @ 125°C. 1 kilowatt **peak** (5 μsec pulse width; 0.05% 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:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

## Model 1418 Medium Power Coaxial Termination

dc to 18.0 GHz  
10 Watts

Type N Connector

**RoHS**



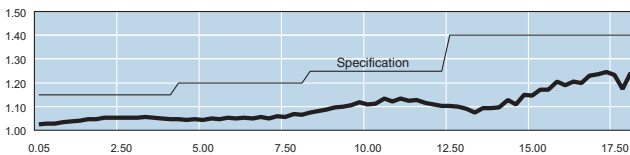
### Features

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

### Specifications

**NOMINAL IMPEDANCE:** 50  $\Omega$   
**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  $\mu$ sec pulse width; 0.05% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

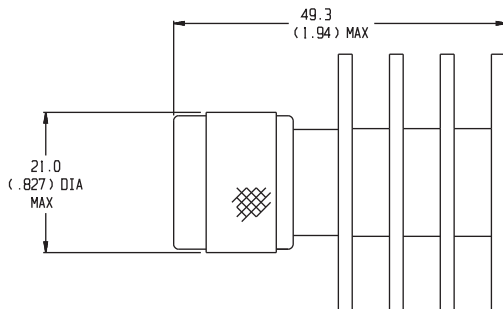
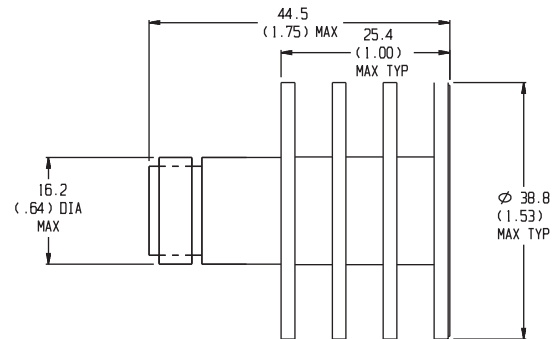
**TEST DATA:** SWR Testing performed across the frequency band. Test data is available at additional cost.

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

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

## Model 1452 Medium Power Coaxial Termination

dc to 4.0 GHz  
25 Watts

*Convection Cooled*

 **RoHS**



### Features

- /// Optimized for Wireless OEM and Test Applications.
- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Quality connector with special high temperature support beads.
- /// 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 μsec pulse width; 0.25% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

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

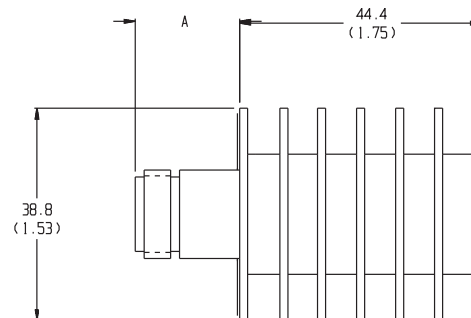
**CONNECTOR:** Type N or 2.92mm connectors mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
1	2.92mm, Female
2	2.92mm, 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:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.



## Model 1427 Medium Power Coaxial Termination

dc to 10.0 GHz  
25 Watts

*Convection Cooled*

**RoHS**



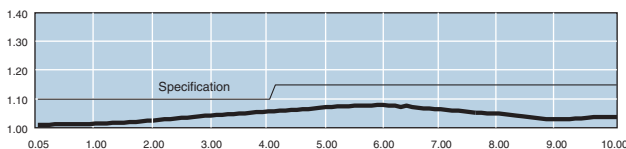
### Features

- /// Designed to meet environmental requirements of MIL-D-39030.
- /// Quality connector with special high temperature support beads.
- /// 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 μsec 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:** SWR Testing performed across the frequency band. Test data is available at additional cost.

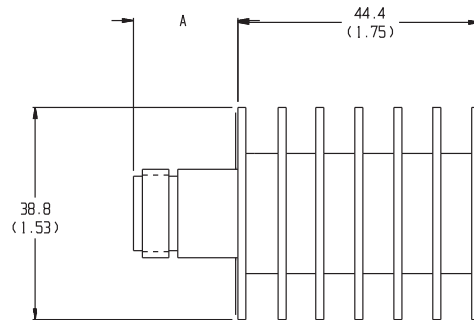
**CONNECTOR:** Type N or 2.92mm connectors mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
1	2.92mm, Female
2	2.92mm, 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:**



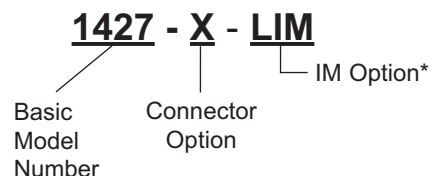
Model #	DIM A	Connector Type
1427-1	12.7 (0.50)	2.92mm female
1427-2	14.0 (0.55)	2.92mm male
1427-3	15.0 (0.59)	N female
1427-4	22.9 (0.90)	N male

**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

**MODEL NUMBER DESCRIPTION:**

**Example:**



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

## Model 1429 Medium Power Coaxial Termination

dc to 18.0 GHz  
25 Watts

### Convection Cooled



### 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 μsec pulse width; 1.25% duty cycle).

**INTERMODULATION (Model 1429-X-LIM Only):** IM3 (Reflected) = -90 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:** SWR Testing performed across the frequency band. Test data is available at additional cost.

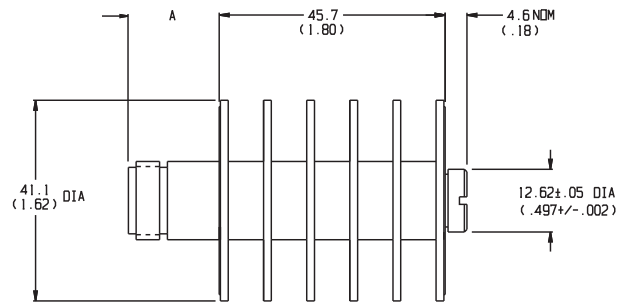
**CONNECTOR:** Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

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:



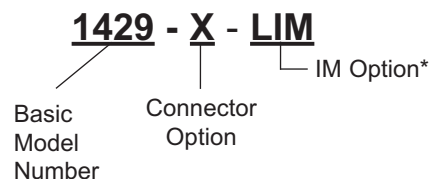
Model #	DIM A	Connector Type
1429-1	13.2 (0.52)	3.5mm female
1429-2	14.0 (0.55)	3.5mm male
1429-3	18.3 (0.72)	N female
1429-4	23.1 (0.91)	N male

### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

### MODEL NUMBER DESCRIPTION:

Example:



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

## Model 1444 Medium Power Coaxial Termination

dc to 26.5 GHz  
25 Watts

*Convection Cooled*



### 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 μsec pulse width; 2.5% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

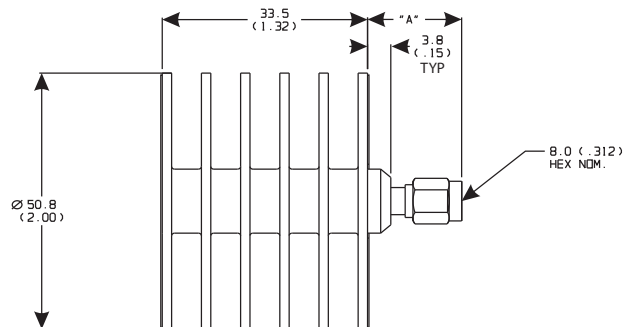
**TEST DATA:** SWR Testing performed across the frequency band. Test data is available at additional cost.

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

**WEIGHT:** 100 g (5.2 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.

## Model 1441 Medium Power Coaxial Termination

dc to 4.0 GHz  
50 Watts

Conduction Cooled



### 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 μsec 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:** SWR Testing performed across the frequency band. Test data is available at additional cost.

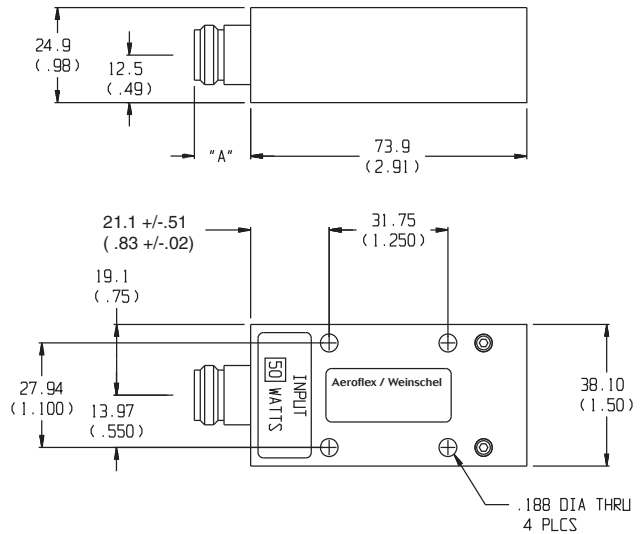
**CONNECTOR:** Type N connector per MIL-STD-348 interface dimensions - mates nondestructively with MIL-C-39012 connector. Choice of male (-4) or female (-3) connector.

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

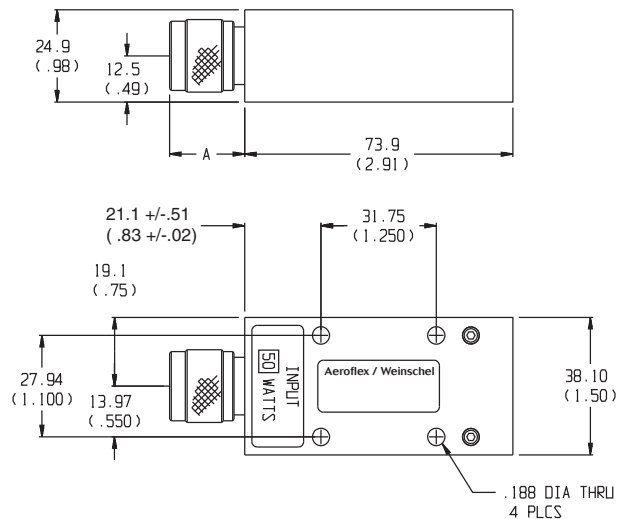
**WEIGHT:** Net 170g (6 oz.) maximum

### PHYSICAL DIMENSIONS:

#### Model 1441-3:



#### Model 1441-4



Model #	DIM A	Connector Type
1441-3	15.0 (0.59)	N female
1441-4	22.9 (0.90)	N male

#### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

## Model 1426 Medium Power Coaxial Termination

dc to 8.5 GHz  
50 Watts

**RoHS**

*Convection Cooled*



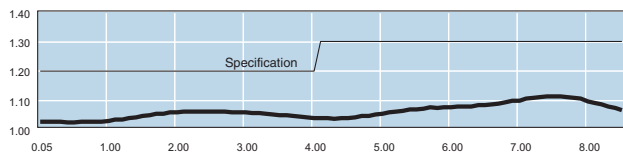
### Features

- /// **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 8.5 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	1.20
4 - 8.5	1.30



*Typical 1426-4 SWR Performance*

**POWER RATING:** 50 watts **average (mounted horizontally)** to 25°C ambient temperature, derated linearly to 0 watts @ 125°C. 5 kilowatts **peak** (5 μsec pulse width; 0.05% 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 +41 dBm each.

**TEMPERATURE RANGE:** -55°C to +125°C

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

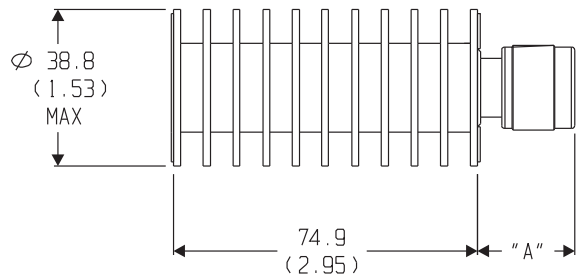
**CONNECTOR:** Type N or 2.92mm connectors mate nondestructively with MIL-C-39012 connector.

Connector Options	Type/Description
1	2.92mm, Female
2	2.92mm, Male
3	Type N, Female
4	Type N, Male

**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:**



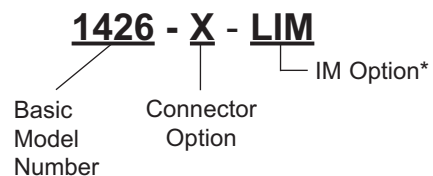
Model #	DIM A	Connector Type
1426-1	12.7 (0.50)	2.92mm female
1426-2	14.0 (0.55)	2.92mm male
1426-3	15.0 (0.59)	N female
1426-4	22.9 (0.90)	N male

**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

**MODEL NUMBER DESCRIPTION:**

**Example:**

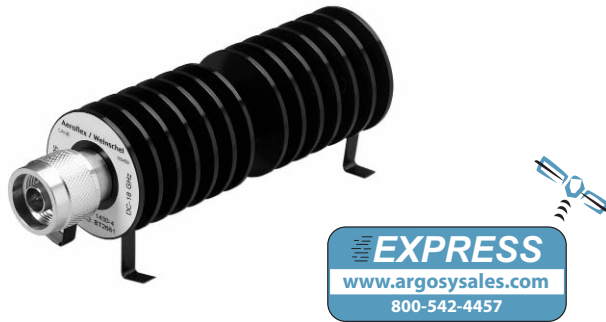


\* Add -LIM to entire model number for Low Intermodulation option. Option not available through Express.

## Model 1430 Medium Power Coaxial Termination

dc to 18.0 GHz  
50 Watts

Convection Cooled



### 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 μsec pulse width; 2.5% duty cycle).

**INTERMODULATION (Model 1430-X-LIM Only):** IM3 (Reflected) = -90 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:** SWR Testing performed across the frequency band. Test data is available at additional cost.

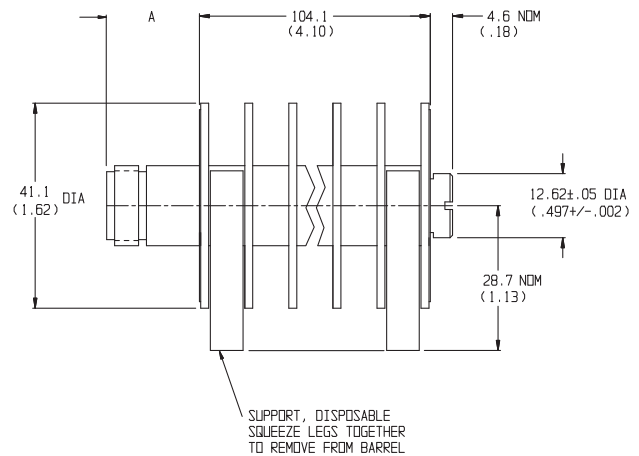
**CONNECTOR:** Type N connector - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

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:



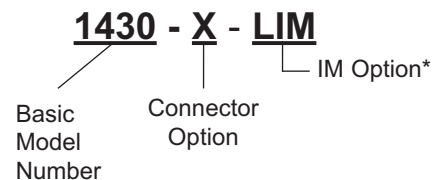
Model #	DIM A	Connector Type
1430-1	13.2 (0.52)	3.5mm female
1430-2	14.0 (0.55)	3.5mm male
1430-3	18.3 (0.72)	N female
1430-4	23.1 (0.91)	N male

### NOTE:

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

### MODEL NUMBER DESCRIPTION:

Example:



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

# Terminations & Loads



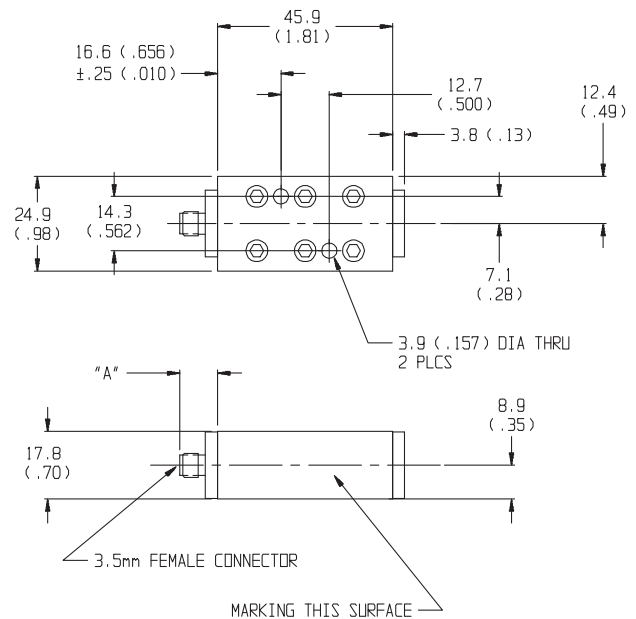
## Models 1458 Medium Power Coaxial Termination

dc to 22.0 GHz  
50 Watts

*Convection Cooled, 3.5mm Connectors*



### PHYSICAL DIMENSIONS:



### 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 μsec pulse width; 0.5% duty cycle) with case temperature held within **90°C maximum** with appropriate conductive heatsink.

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

**TEST DATA:** SWR Testing performed across the frequency band. Test data 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

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

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

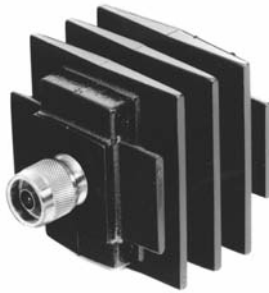


## Model 1440 High Power Coaxial Termination

dc to 4.0 GHz  
100 Watts

**RoHS**

*Convection Cooled*



MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	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 µsec pulse width; 0.5 % duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

**TEST DATA:** SWR Testing performed across the frequency band. Test data 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 center contacts.

**WEIGHT:** 500 g (18 oz)

### Features

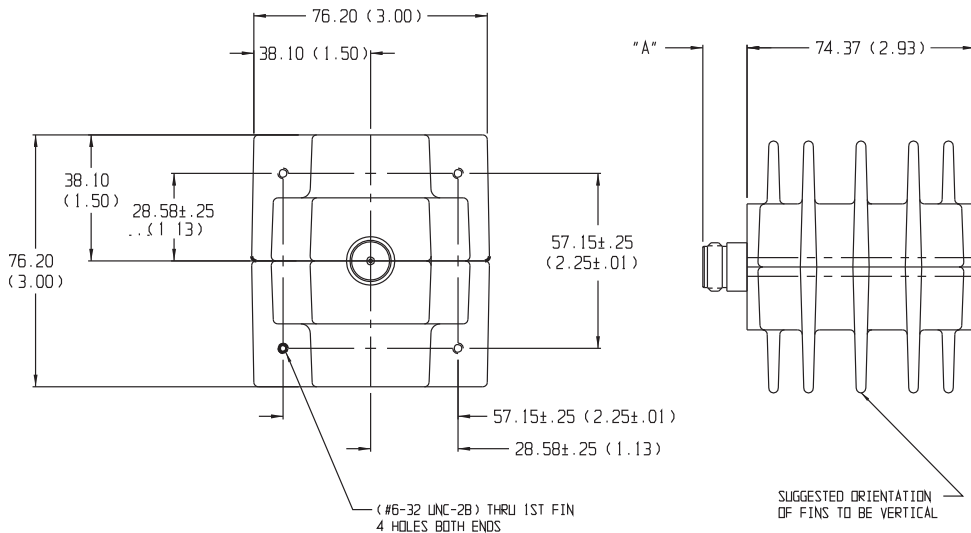
- /// **Compact Construction** - Lowest size/power ratio.
- /// **Low SWR**
- /// **Rugged Construction** - Quality connector with special high temperature support bead.
- /// **Ideal for Wireless Applications.**

### Specifications

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 4.0 GHz

**PHYSICAL DIMENSIONS:**



Model #	DIM A	Connector Type
1440-3	15.0 (0.59)	N female
1440-4	22.9 (0.90)	N male

**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

# Terminations & Loads



## Model 1442 High Power Coaxial Termination

dc to 8.5 GHz  
100 Watts

Convection Cooled



MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	1.20
4 - 8.5	1.30

### 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 8.5 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 μsec pulse width; 1.0% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

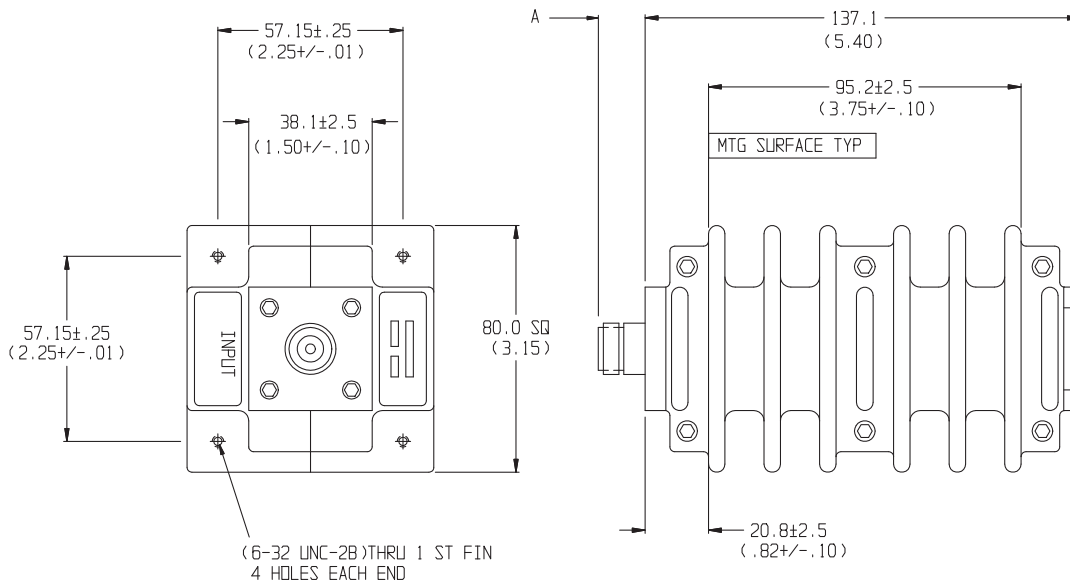
**TEST DATA:** SWR testing performed across the frequency range. Test data available at additional cost.

**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 contact or stainless steel male contact.

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

### PHYSICAL DIMENSIONS:



#### NOTE:

- All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
- Unit available with RoHS compliant materials, specify when ordering.

Model #	DIM A	Connector Type
1442-3	15.0 (0.59)	N female
1442-4	22.9 (0.90)	N male

## Model 1431 High Power Coaxial Termination

dc to 18.0 GHz  
100 Watts

Convection Cooled

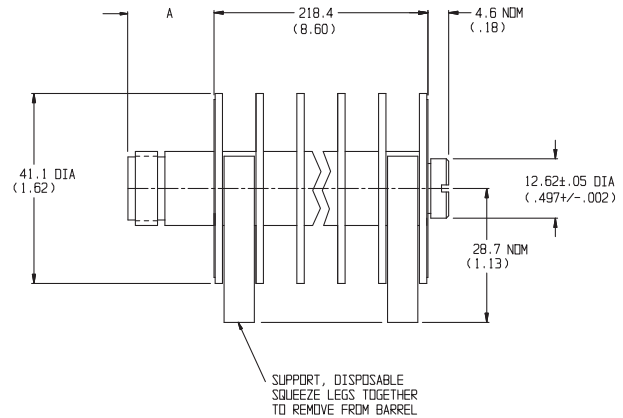
**RoHS**



**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:**



### 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 μsec pulse width; 5% duty cycle).

**INTERMODULATION (Model 1431-X-LIM Only):** IM3 (Reflected) = -90 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:** SWR Testing performed across the frequency band. Test data 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).

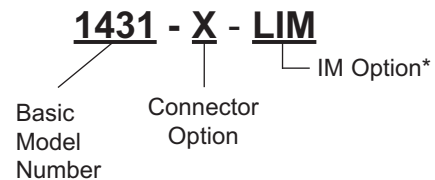
Model #	DIM A	Connector Type
1431-1	13.2 (0.52)	3.5mm female
1431-2	14.0 (0.55)	3.5mm male
1431-3	18.3 (0.72)	N female
1431-4	23.1 (0.91)	N male

**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

**MODEL NUMBER DESCRIPTION:**

**Example:**



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

## Model 1428 Model 1435 High Power Coaxial Termination

dc to 1.5 GHz  
dc to 5.0 GHz  
150 Watts



### Convection Cooled



### Features

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

### Specifications

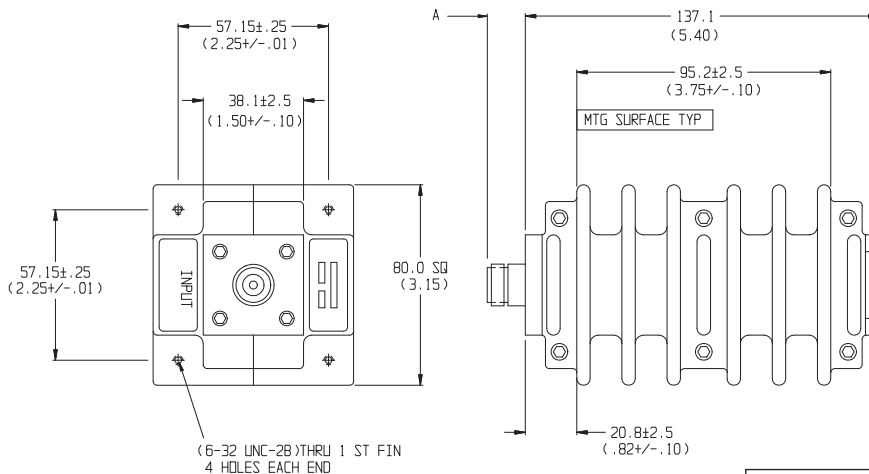
**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** Model 1428: dc to 1.5 GHz  
Model 1435: dc to 5.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 2	1.10
2 - 5	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.
- Unit available with RoHS compliant materials, specify when ordering.

Model #	DIM A	Connector Type
F1428, 1435-3	15.0 (0.59)	N female
M1428, 1435-4	22.9 (0.90)	N male

**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 μsec pulse width; 0.75% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

**TEST DATA:** SWR Testing performed across the frequency band. Test data 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

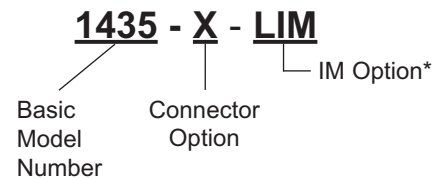
Model 1435: Add -4 for male or -3 for female

**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 1439 High Power Coaxial Termination

dc to 2.5 GHz  
150 Watts

### Convection Cooled



MAXIMUM SWR*:	
Frequency (GHz)	SWR
dc - 2.5	1.20

### 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:**

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

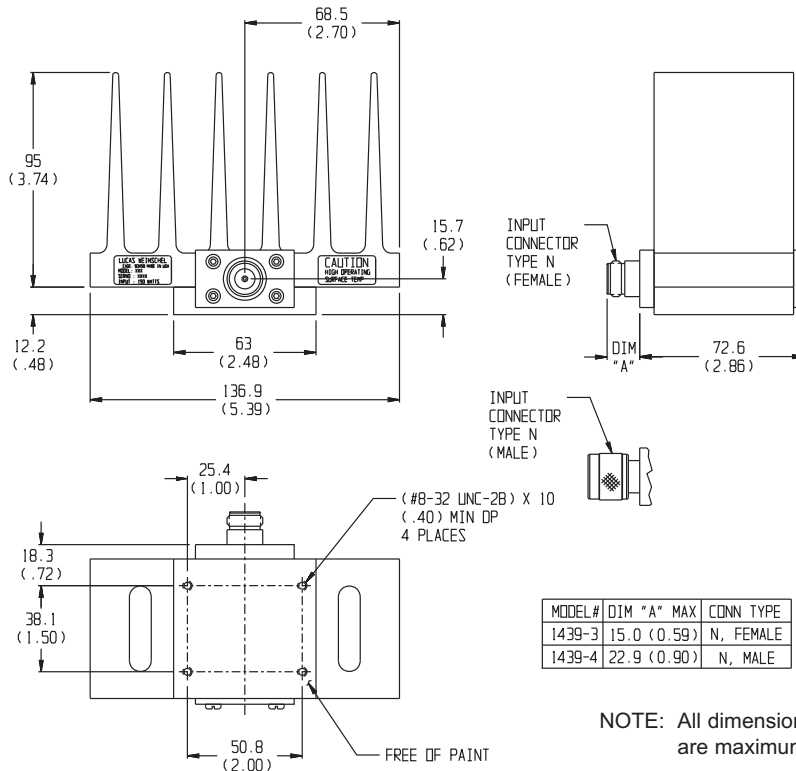
**TEMPERATURE RANGE:** -55°C to 100°C case

**TEST DATA:** SWR Testing performed across the frequency band. Test data 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:** 850 g (1 lb, 14 oz)



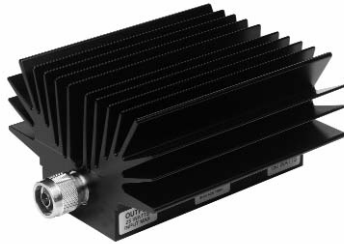
NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

## Model 1432 High Power Coaxial Termination

dc to 8.5 GHz  
150 Watts

**RoHS**

*Convection Cooled*



### 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.

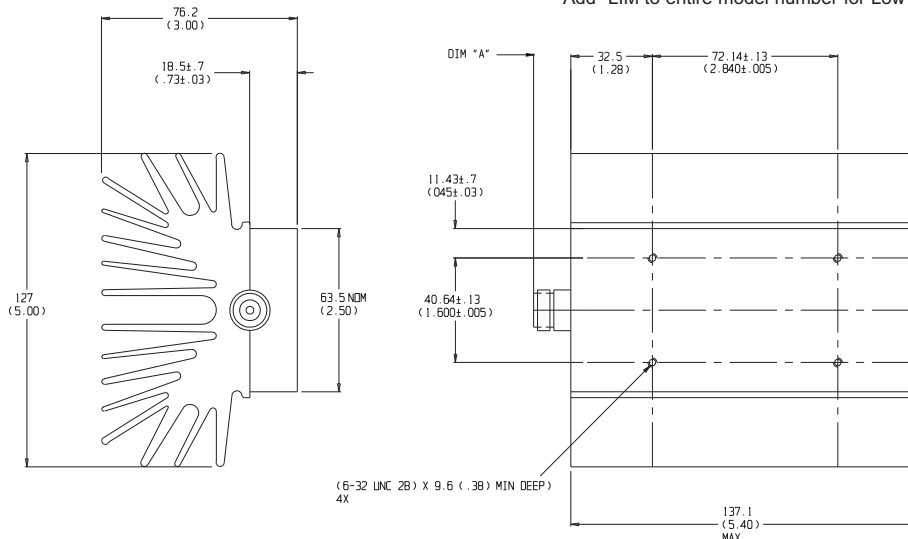
### Specifications

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 8.5 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 4	1.20
4 - 8.5	1.30

### PHYSICAL DIMENSIONS:



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

**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.

**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 μsec pulse width; 1.5% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

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

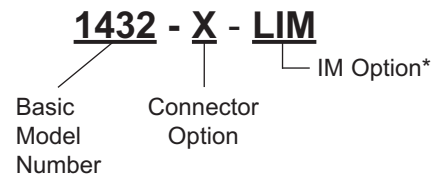
**CONNECTOR:** Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female (-3) connector.

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

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

### MODEL NUMBER DESCRIPTION:

Example:



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

Model #	DIM A	Connector Type
1432-3	15.0 (0.59)	N female
1432-4	22.9 (0.90)	N male

## Model 1433 High Power Coaxial Termination

dc to 5.0 GHz  
250 Watts

**RoHS**

*Convection Cooled*



### Features

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

### Specifications

**NOMINAL IMPEDANCE:** 50 Ω  
**FREQUENCY RANGE:** dc to 5.0 GHz

MAXIMUM SWR:	
Frequency (GHz)	SWR
dc - 2	1.10
2 - 5	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 μsec pulse width; 2.5% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

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

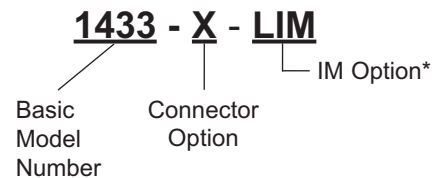
**CONNECTOR:** Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female connector (-3).

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

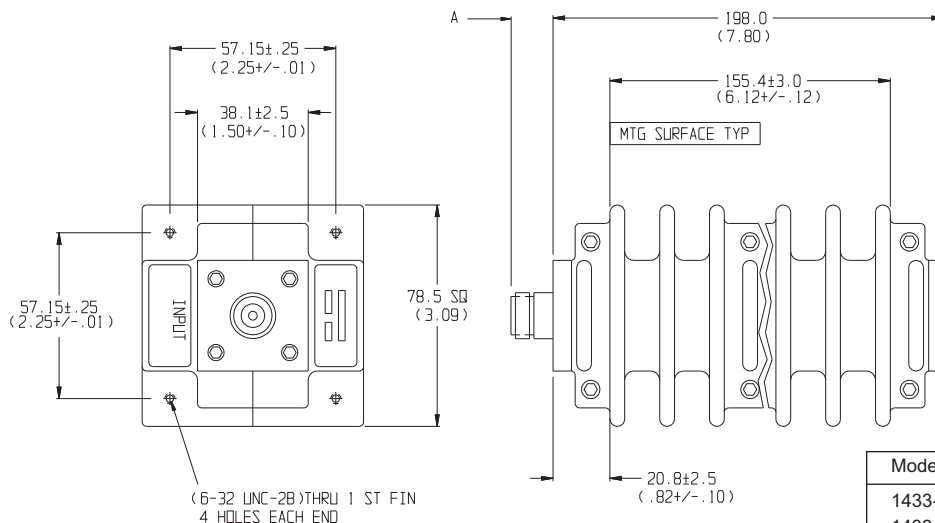
**WEIGHT:** Net 1,530 g (3 lbs., 6 oz.) maximum

### MODEL NUMBER DESCRIPTION:

Example:



### PHYSICAL DIMENSIONS:



**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

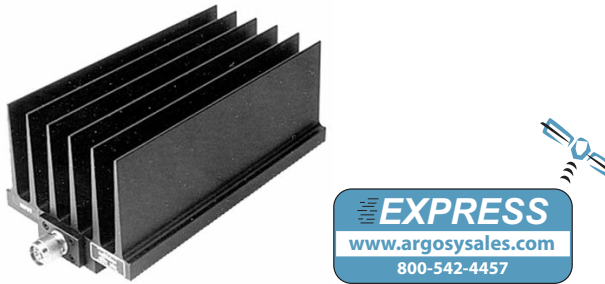
Model #	DIM A	Connector Type
1433-3	15.0 (0.59)	N female
1433-4	22.9 (0.90)	N male



## Model 1434 High Power Coaxial Termination

dc to 2.5 GHz  
500 Watts

### Convection Cooled



### Features

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

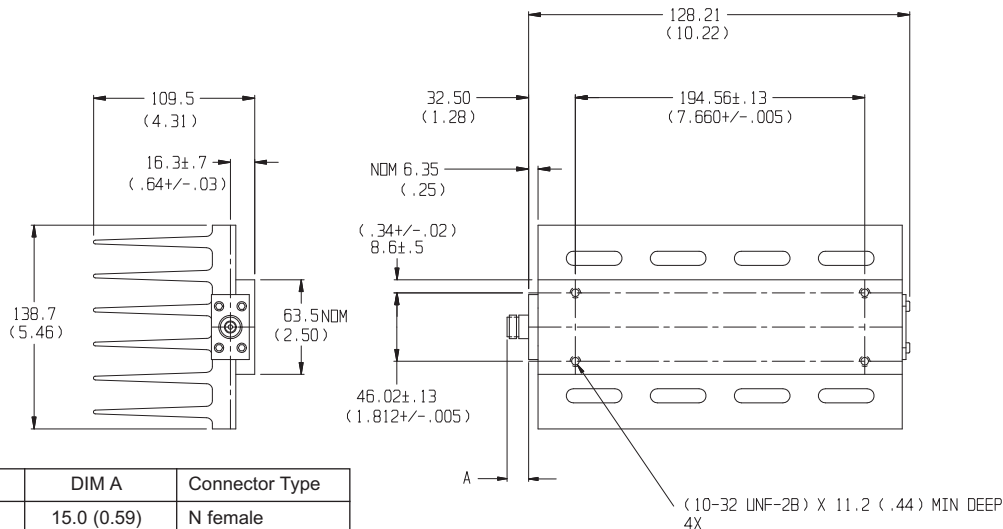
### Specifications

**NOMINAL IMPEDANCE:** 50  $\Omega$

**FREQUENCY RANGE:** dc to 2.5 GHz

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

### PHYSICAL DIMENSIONS:



Model #	DIM A	Connector Type
1434-3	15.0 (0.59)	N female
1434-4	22.9 (0.90)	N male

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  $\mu$ sec pulse width; 2.5% duty cycle).

**TEMPERATURE RANGE:** -55°C to +125°C

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

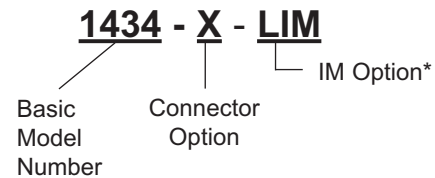
**CONNECTOR:** Type N connector per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connector. Choice of male (-4) or female (-3) connector.

**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:



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

## Model 1456 High Power Coaxial Termination

dc to 3.0 GHz  
1,000 Watts

Convection Cooled



### Features

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

### 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 μsec pulse width; 5% duty cycle).

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

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

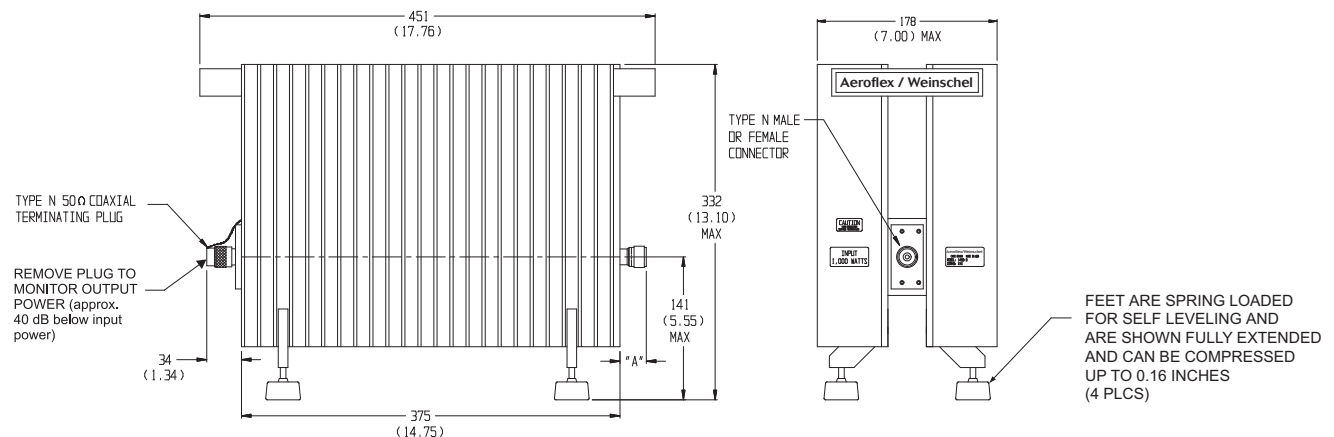
**CONNECTOR:** Type N connectors - mate nondestructively with MIL-C-39012 connector.

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:



**NOTE:**

1. All dimensions are given in mm (inches) and are maximum, unless otherwise specified.
2. Unit available with RoHS compliant materials, specify when ordering.

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