

**THE BIG DEAL**

- Ultra-Wideband, DC to 40 GHz
- Excellent Return Loss, 35 dB up to 4 GHz; 20 dB up to 40 GHz
- Input Power Handling up to 1W
- Mates with SMA, K, and 3.5mm Connector Types

*Generic photo used for illustration purposes only*

Model No.	ANNE-50K+
Case Style	LL2699-1
Connectors	2.92 mm-Male

**+RoHS Compliant**

The +Suffix identifies RoHS Compliance.  
See our website for methodologies and qualifications

**APPLICATIONS**

- Cellular Communications
- Satellite Communications
- Test Set-up
- Defense & Radar

**PRODUCT OVERVIEW**

Mini-Circuits' ANNE-50K+ is an ultra-wideband 50Ω termination capable of absorbing signals up to 1W from DC to 40 GHz. It provides excellent return loss across its entire operating frequency range, effectively dissipating signal power with minimal reflections. This model has a 2.92mm-male connector, allowing connections with SMA, K and 3.5mm type connectors. The unit features rugged construction for a long life of use and comes in a gold-plated brass case measuring only 0.58"(l) x 0.37" (dia.).

**KEY FEATURES**

Features	Advantages
Ultra-Wideband, DC to 40 GHz	Extremely wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use.
Good Return Loss: <ul style="list-style-type: none"><li>• 35 dB up to 4000 MHz</li><li>• 20 dB up to 40000 MHz</li></ul>	Good return loss minimizes signal reflections across multiple-decade frequency range.
2.92mm-Male Connector mates with SMA, K and 3.5mm connectors	Provides flexible connection options, avoiding the need for extra adapters.
Power Handling up to 1W	ANNE-50K+ meets a wide range of system power requirements in a small device size.
Wide Operating Temperature Range, -55 to +100 °C	Withstands tough operating conditions and is suitable for use near high power componentry where heat rise is common.

REV. B  
ECO-016342  
ANNE-50K+  
MCL NY  
230831



## ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	40	GHz
Impedance		50			Ohms
Return Loss	DC - 4	28	35	—	dB
	4 - 18	20	30	—	
	18 - 30	19	25	—	
	30 - 40	16	20	—	
Input Power <sup>1</sup>	DC - 40	—	—	1	W

1. At 25°C, derate linearly to 350 mW at 100°C.

ABSOLUTE MAXIMUM RATINGS<sup>1</sup>

Parameter	Ratings
Operating Temperature	-55 °C to +100 °C
Storage Temperature	-55 °C to +100 °C

1. Permanent damage may occur if any of these limits are exceeded.



Mini-Circuits

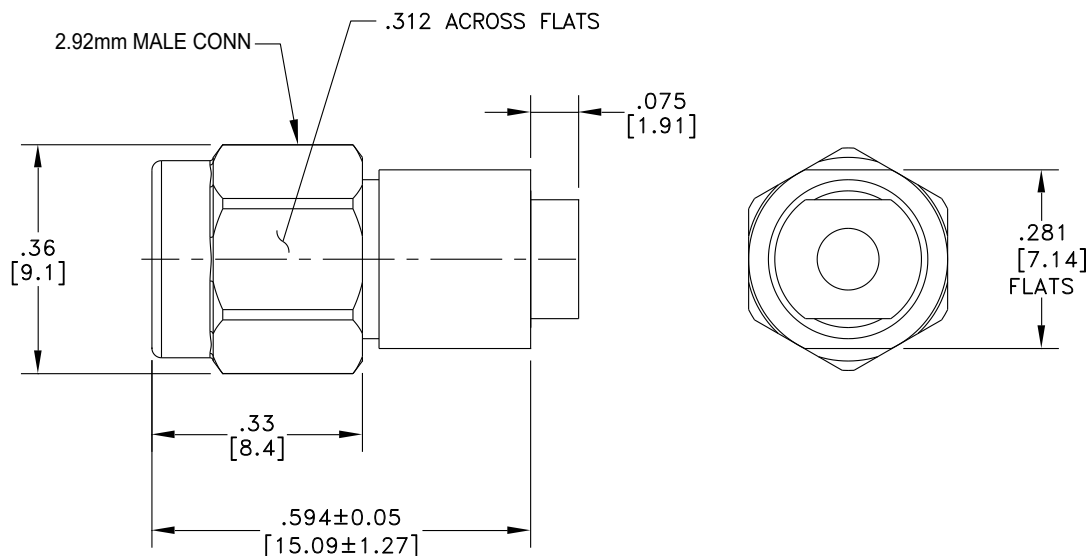
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# Termination

**ANNE-50K+**

50Ω DC to 40 GHz 2.92 mm-Male

## OUTLINE DRAWING



Weight: 4.0 grams

Dimensions are in inches [mm]. Tolerances: 2 PL.  $\pm .03$ ; 3 PL  $\pm .010$



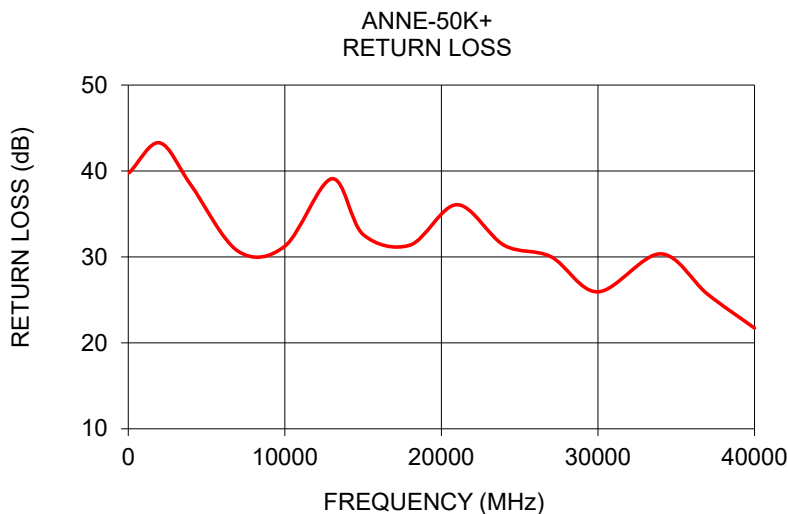
## Termination

ANNE-50K+

50Ω DC to 65 GHz 2.92 mm Male

## TYPICAL PERFORMANCE DATA

Frequency (MHz)	Return Loss (dB)
50	39.78
2000	43.28
4000	38.37
7000	30.68
10000	31.25
13000	39.09
15000	32.61
18000	31.38
21000	36.08
24000	31.36
27000	30.03
30000	25.94
34000	30.36
37000	25.67
40000	21.72



## NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)

*Typical Performance Data*

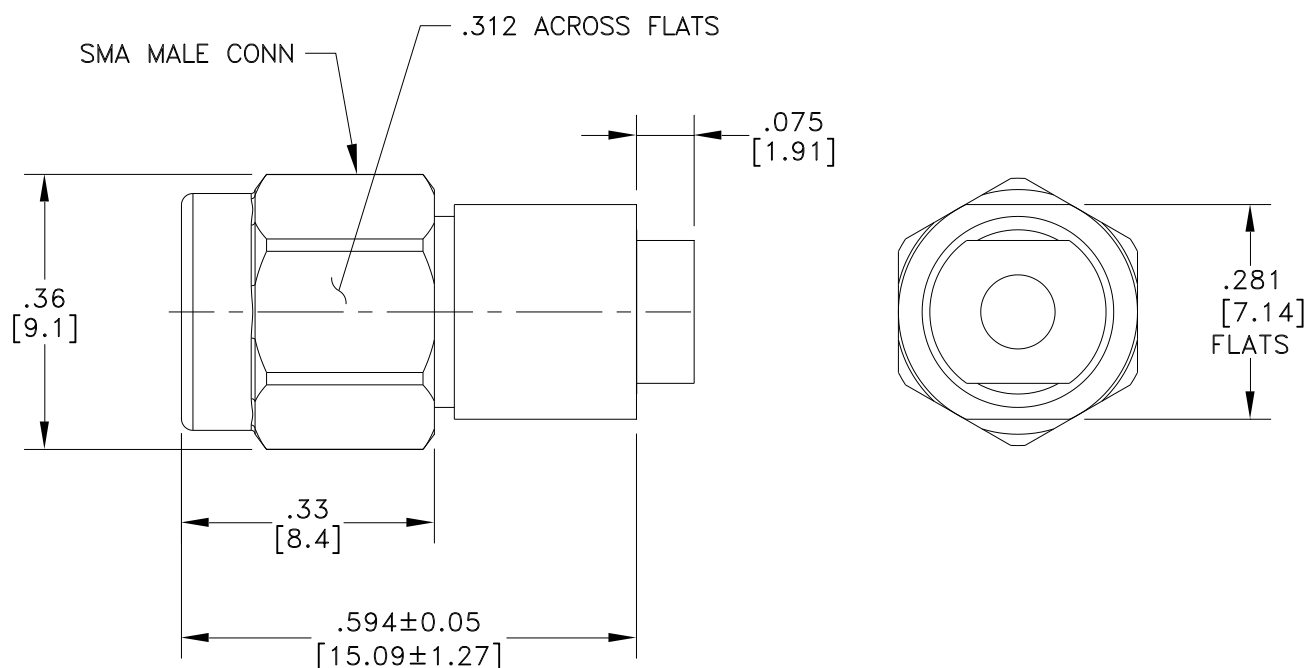
FREQUENCY (MHz)	RETURN LOSS (dB)
50	39.78
100	39.90
500	40.49
1000	40.73
1500	41.47
2000	43.28
2500	42.82
3000	41.52
3500	39.76
4000	38.37
4500	35.99
5000	34.39
5500	33.12
6000	32.07
6500	31.30
7000	30.68
7500	30.22
8000	30.03
8500	30.03
9000	30.17
9500	30.56
10000	31.25
10500	32.22
11000	33.51
11500	35.29
12000	37.40
12500	39.08
13000	39.09
13500	37.62
14000	35.78
14500	34.05
15000	32.61
15500	31.62
16000	31.06
16500	30.69
17000	30.56
17500	30.82
18000	31.38
18500	32.14
19000	33.30
19500	34.73
20000	35.83
20500	36.36
21000	36.08
21500	34.93
22000	33.83
22500	32.86
23000	32.07
23500	31.57
24000	31.36
24500	31.26
25000	31.20
25500	31.21
26000	31.00
26500	30.63
27000	30.03
27500	29.15
28000	28.25
28500	27.42
29000	26.73
29500	26.21
30000	25.94
31000	25.98
32000	26.93
33000	28.58
34000	30.36
35000	30.14
36000	27.97
37000	25.67
38000	23.94
39000	22.70
40000	21.72

## Typical Performance Curves



## Outline Dimensions

LL2699-1



CASE #	WT GRAMS
LL2699-1	4.0

**Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015**

### Notes:

1. Case Material: Stainless Steel.
2. Case Finish: Passivation.
3. For polarity of connector refer individual model data sheet.



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Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)

RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I