

**THE BIG DEAL**

- Ultra-Wideband, DC to 20 GHz
- Excellent Return Loss, 25 dB typ. up to 20 GHz
- Quick-Turn, 1 to 2 turns

*Generic photo used for illustration purposes only*

Model No.	ANNEQ-50X+
Case Style	LL2699
Connectors	SMA-Male Quick-Turn

+RoHS Compliant

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

APPLICATIONS

- Test and Measurement Equipment
- Test Labs

PRODUCT OVERVIEW

Mini-Circuits' ANNEQ-50X+ is an ultra-wideband 50Ω quick turn termination that enables quick connect and disconnect in test system which saves time. It provides excellent return loss across its entire operating frequency range, effectively dissipating signal power with minimal reflections.

KEY FEATURES

Features	Advantages
Quick Turn: 1 to 2 turns	Ideal for test application Quick connect/disconnect reduces test time and cost.
Ultra-Wideband, DC to 20 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">• 35 dB typ. up to 4 GHz• 24 dB typ. up to 20 GHz	Good return loss minimizes signal reflections across multiple-decade frequency range.
Power Handling up to 1W at 25°C	ANNEQ-50X+ meets a wide range of system power requirements.
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.



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Termination

ANNEQ-50X+

50Ω DC to 20 GHz SMA-Male Quick-Turn

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	20	GHz
Impedance		50			Ohms
Return Loss	DC - 4	32	47	—	dB
	4 - 20	22	30	—	
Input Power ¹	DC - 20	—	—	1	W

1. To 100°C, derate linearly to 325 mW at 100°C.

ABSOLUTE MAXIMUM RATINGS¹

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.





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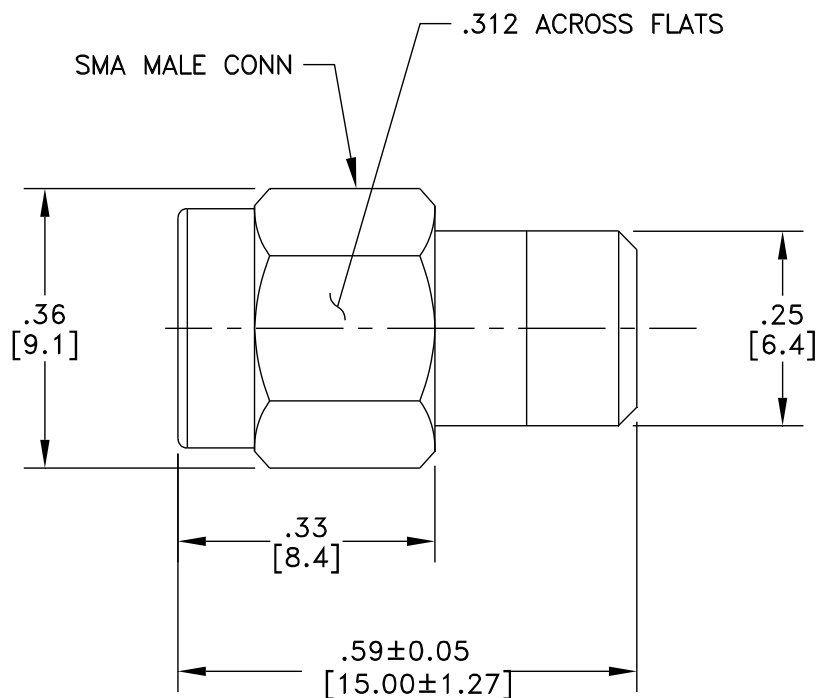
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OUTLINE DRAWING



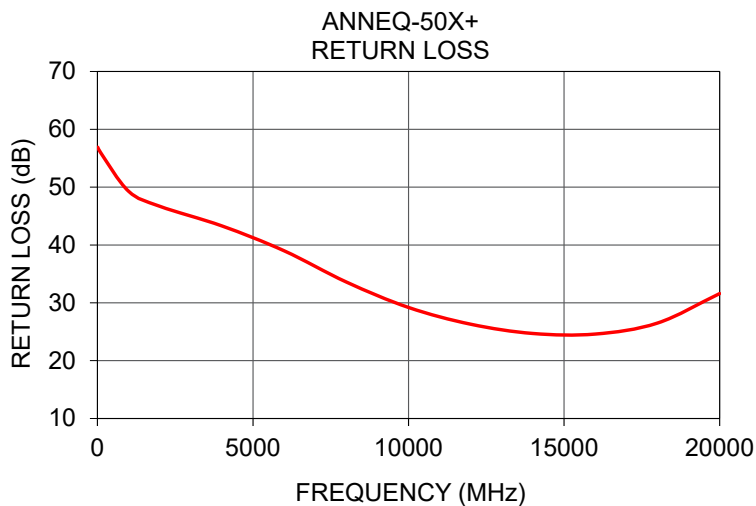
Weight: 4.0 grams

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



TYPICAL PERFORMANCE DATA

Frequency (MHz)	Return Loss (dB)
10	56.9
100	56.0
1000	49.3
2000	46.7
4000	43.3
6000	39.0
8000	33.6
10000	29.2
12000	26.3
14000	24.7
16000	24.6
18000	26.5
20000	31.6



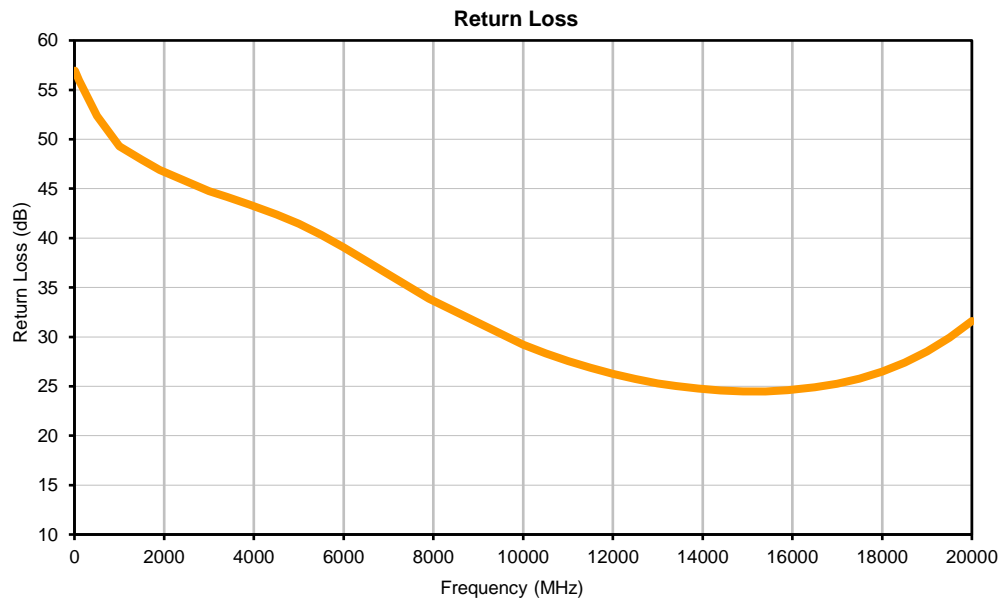
NOTES

- 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

Typical Performance Data

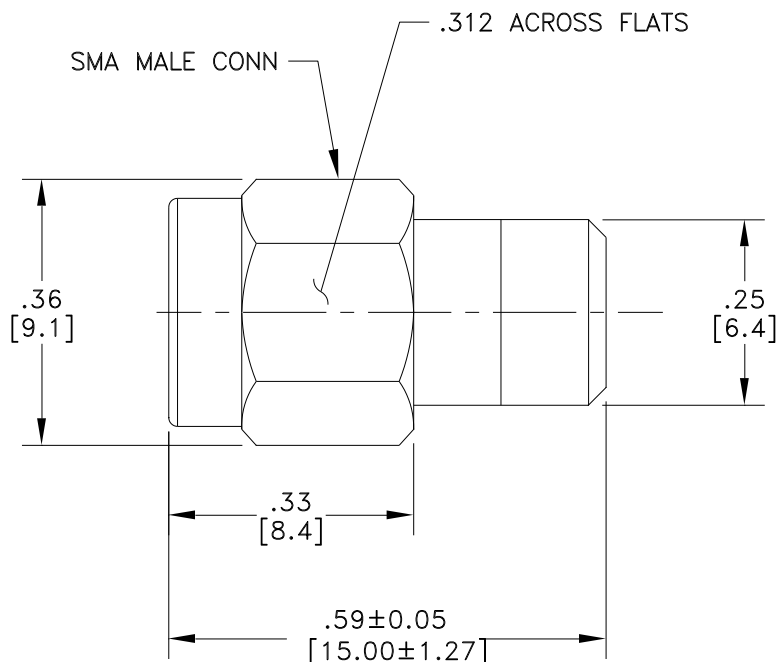
FREQUENCY (MHz)	RETURN LOSS (dB)
10	56.94
100	55.97
500	52.36
1000	49.28
1500	47.91
1900	46.90
2500	45.73
3000	44.75
3400	44.16
3900	43.41
4500	42.39
5000	41.44
5500	40.33
6000	39.04
6500	37.70
6900	36.59
7400	35.23
7900	33.88
10000	29.22
10500	28.34
11000	27.54
11500	26.86
12000	26.26
12500	25.75
13000	25.30
13400	25.02
13900	24.76
14400	24.58
14900	24.48
15400	24.47
15900	24.61
16500	24.90
17000	25.26
17500	25.78
18000	26.50
18500	27.40
19000	28.53
19500	29.93
20000	31.61

Typical Performance Curves



Outline Dimensions

LL2699



CASE #	WT GRAMS
LL2699	4.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$

Notes:

1. Case Material: Brass.
2. Case Finish: Trimetal alloy Plated.
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

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 or -55° to 85° C or -45° to 100° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition B except over -55° to 100°C
Connector Durability	500 mating/unmating cycles	MIL-PRF-39012E, PARAGRAPH 4.6.12
Drop Test	1 meter height, 5 times	