



## FEATURES

- Ultra-Wideband, DC to 20 GHz
- Return Loss, 40 dB typ. up to 4 GHz and 30 dB typ. 10 to 20 GHz
- Rugged Construction



Generic photo used for illustration purposes only

## APPLICATIONS

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

Model No.	ANNE-50X+
Case Style	LL561
Connectors	SMA-Male

## +RoHS Compliant

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

ELECTRICAL SPECIFICATIONS  $T_{AMB}=+25^{\circ}\text{C}$ 

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	20	GHz
Impedance		50			Ohms
Return Loss	DC - 8	30	—	—	dB
	8 - 12	26	—	—	
	12 - 18	24	—	—	
	18 - 20	22	—	—	
Input Power <sup>1</sup>	DC - 20	—	—	1	W

\*At +50°C, derate linearly to 350mW 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

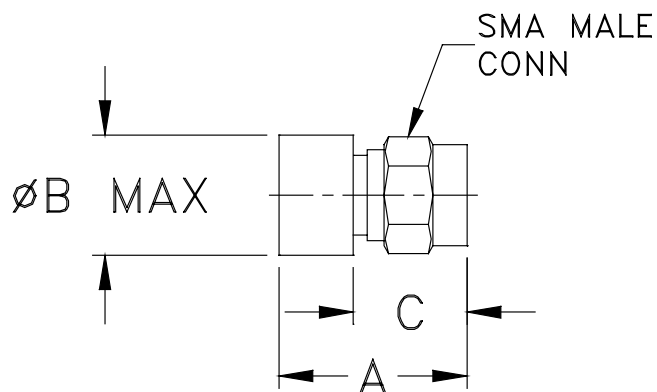
COAXIAL

# Termination

**ANNE-50X+**

50Ω DC to 20 GHz SMA-Male

## OUTLINE DRAWING



## OUTLINE DIMENSIONS ( $\frac{\text{Inch}}{\text{mm}}$ )

A	B	C	wt
0.58	0.37	0.35	grams
14.73	9.40	8.89	4.0



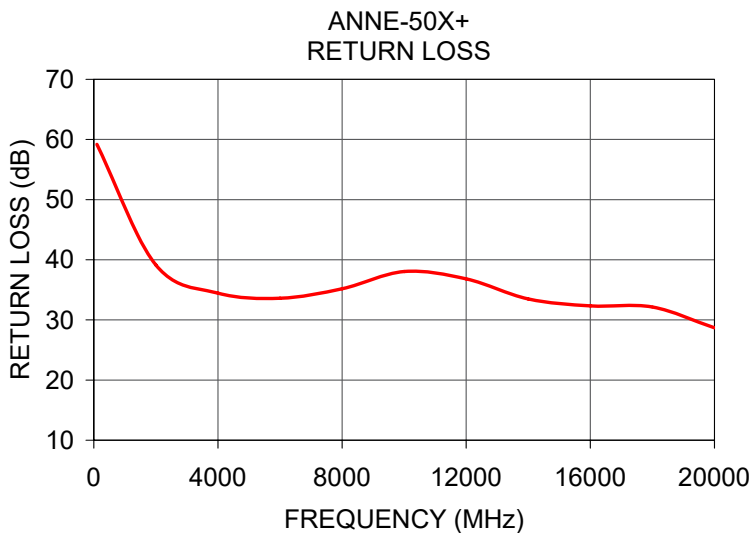
# Termination

**ANNE-50X+**

50Ω DC to 20 GHz SMA-Male

**TYPICAL PERFORMANCE DATA**

Frequency (MHz)	Return Loss (dB)
100	51.34
2000	39.76
4000	34.90
6000	34.04
8000	35.38
10000	36.62
12000	34.63
14000	30.99
16000	28.79
18000	27.29
20000	24.54

**NOTES**

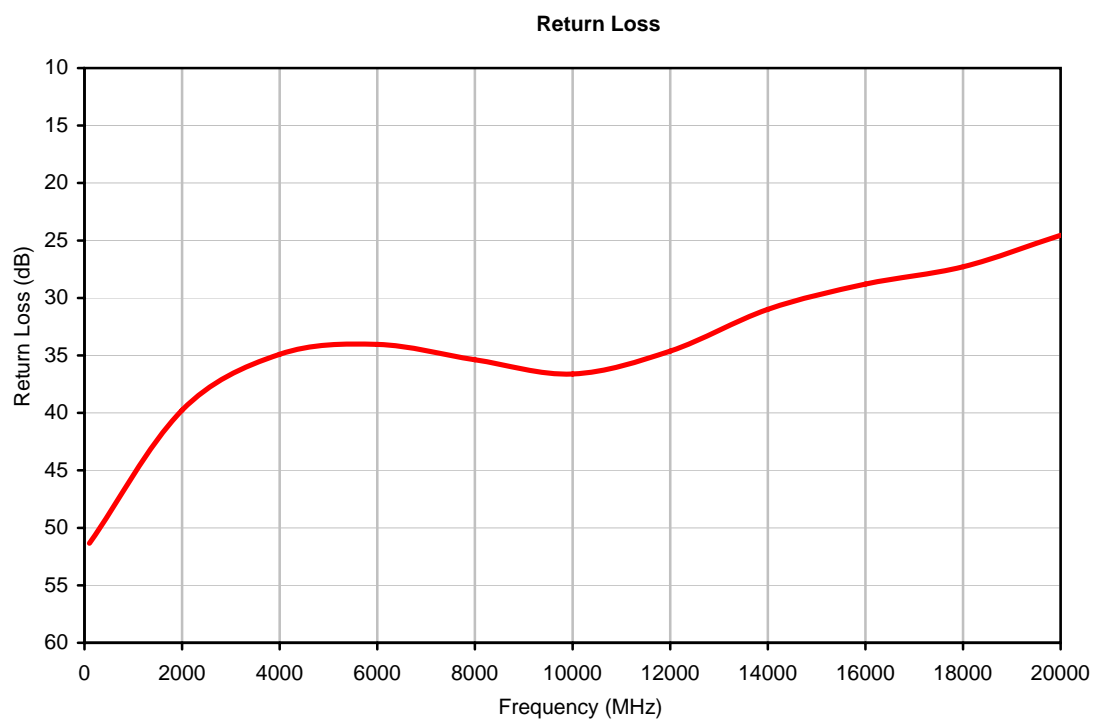
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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)

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*Typical Performance Data*

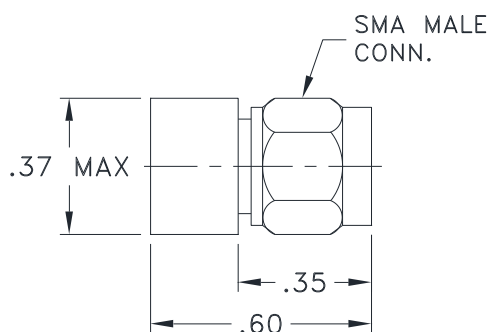
FREQUENCY (MHz)	RETURN LOSS (dB)
100	51.34
2000	39.76
4000	34.90
6000	34.04
8000	35.38
10000	36.62
12000	34.63
14000	30.99
16000	28.79
18000	27.29
20000	24.54

## Typical Performance Curves

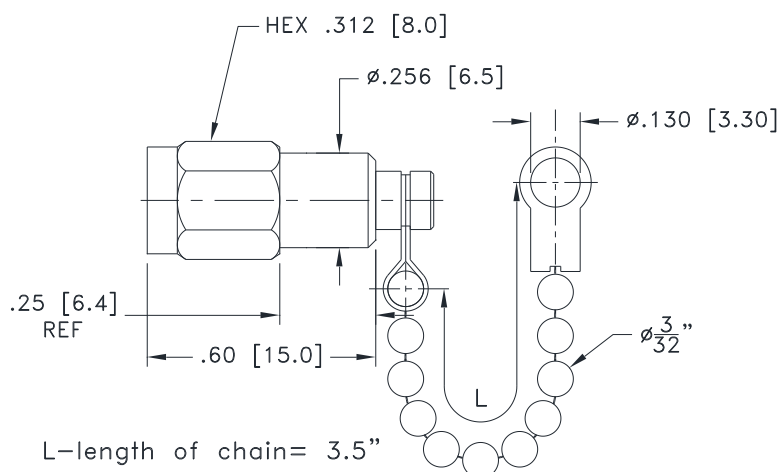


## Outline Dimensions

LL561



WITHOUT CHAIN



WITH CHAIN

CASE #	WT GRAMS
LL561	4.0
LL561 WITH CHAIN	5.00

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

### Notes:

1. Case Material: Brass.
2. Case Finish: Gold plate.
3. For polarity of connector refer individual model data sheet.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine 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