



COAXIAL

Termination, SMA-F

ANNEF-50+

Mini-Circuits

50Ω DC to 18 GHz

THE BIG DEAL

- Ultra-wideband, DC to 18 GHz
- Excellent return loss, 23 dB typ. up to 18 GHz
- Input power handling up to 1W



Generic photo used for illustration purposes only

APPLICATIONS

- Test and measurement equipment
- Test labs
- Defense and aerospace

Model No.	ANNEF-50+
Case Style	LL2642
Connectors	SMA-Female

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

PRODUCT OVERVIEW

Mini-Circuits' ANNEF-50+ is a wideband 50Ω termination capable of absorbing signals up to 1W from DC to 18 GHz. It provides excellent return loss across its entire operating frequency range, effectively dissipating signal power with minimal reflections. This model has a SMA-female connector. The unit features rugged construction for a long life of use and comes in a gold plated brass body with a gold plated beryllium copper center contact. It only measures 0.56"(l) x 0.36" (dia.).

KEY FEATURES

Feature	Advantages
Wideband, DC to 18 GHz	Extremely wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use.
Good return loss: • 23 dB up to 18 GHz	Good return loss minimizes signal reflections across multiple-decade frequency range.
Power handling up to 1W	ANNEF-50+ 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. A
 ECO-012138
 ANNEF-50+
 MCL NY
 220301





MAXIMUM RATINGS

Parameter	Ratings
Operating temperature	-55°C to 100°C
Storage temperature	-55°C to 100°C

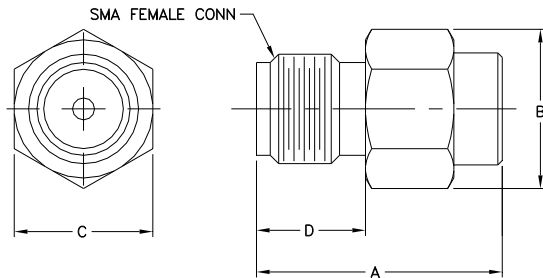
Permanent damage may occur if any of these limits are exceeded.

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	18	GHz
Impedance		50			Ohms
Return Loss	DC - 4	30	45	—	dB
	4 - 8	25	40	—	
	8 - 18	20	36	—	
Input Power ¹	DC - 18	—	—	1	W

1. Up to 25°C, derates linearly to 325mW at 100°C.

OUTLINE DRAWING



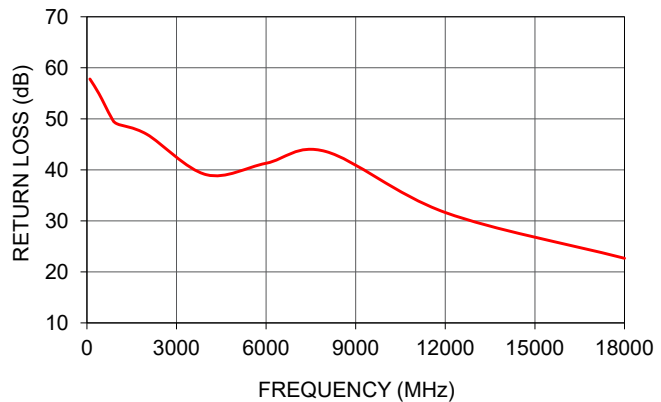
OUTLINE DIMENSIONS (Inch/mm)

A	B	C	D	E	wt
.54	.35	.315	.25	--	grams
13.7	9.0	8.0	6.4	--	3.35

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Return Loss (dB)
100	57.80
400	54.91
800	50.37
1000	49.04
2000	46.98
4000	39.04
6000	41.29
8000	43.59
12000	31.63
18000	22.66

ANNEF-50+ RETURN LOSS



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/MCLStore/terms.jsp

Typical Performance Data

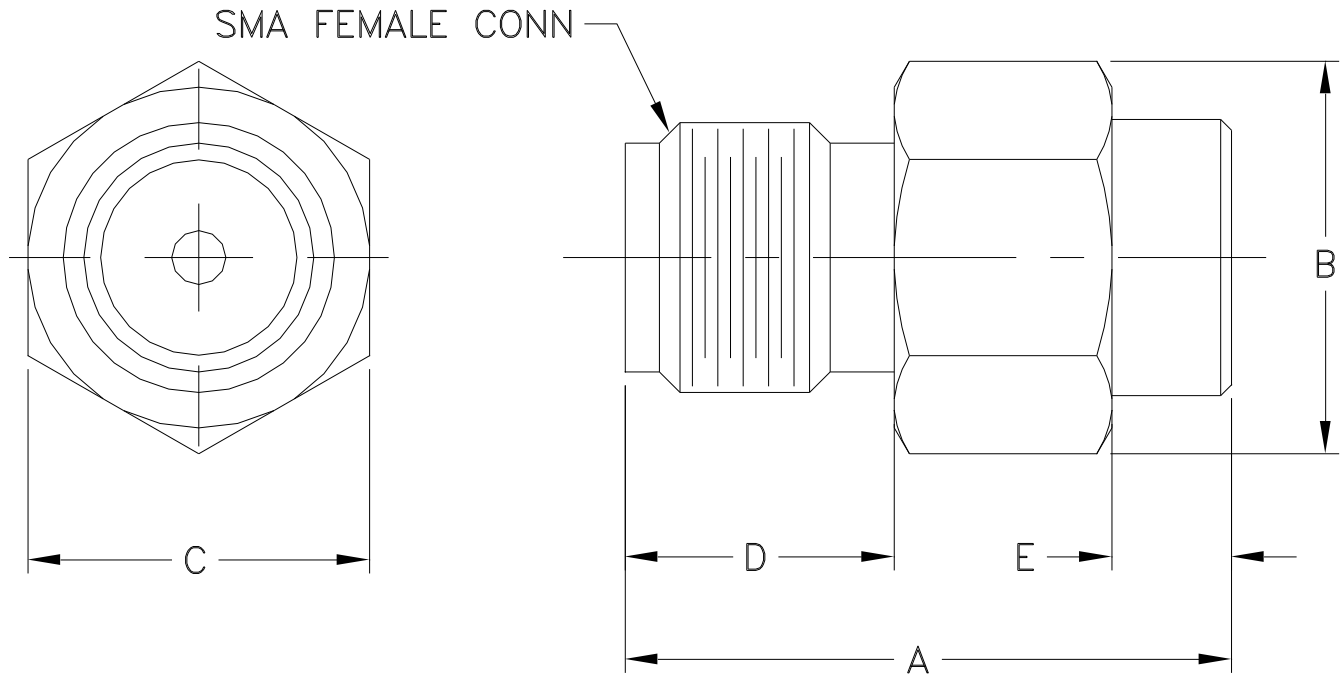
FREQUENCY (MHz)	RETURN LOSS (dB)
100	57.80
150	58.15
200	58.12
250	57.29
300	56.61
350	55.80
400	55.08
450	54.44
500	53.55
550	52.87
600	52.31
650	51.80
700	51.28
750	50.76
800	50.46
850	50.10
900	49.64
950	49.44
1000	48.95
1500	47.48
2000	47.00
2500	45.57
3000	43.09
3500	40.68
4000	39.04
4500	38.36
5000	38.52
5500	39.61
6000	41.16
6500	42.69
7000	43.14
7500	43.03
8000	43.59
8500	44.97
9000	45.32
9500	42.14
10000	38.71
10500	36.19
11000	34.40
11500	33.02
12000	31.68
12500	30.34
13000	28.98
13500	27.79
14000	26.84
14500	26.09
15000	25.51
15500	24.96
16000	24.42
16500	23.81
17000	23.21
17500	22.88
18000	22.66

Typical Performance Curves



Outline Dimensions

LL2641



CASE #	A	B	C	D	WT. GRAM
LL2641	.54 (13.7)	.35 (9.0)	.315 (8.0)	.25 (6.3)	3.35

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .030$; 3Pl. $\pm .015$

Notes:

1. Case material: Brass Alloy.
2. Case Finish: Gold Plated.

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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