



COAXIAL

Termination

ANNEF-50V+

50Ω DC to 50 GHz 2.4 mm Female

THE BIG DEAL

- Ultra-Wideband, DC to 50 GHz
- Excellent Return Loss, 20 dB typ. up to 50 GHz
- Input Power Handling up to 1 W
- Mates with 1.85 mm, 3.5 mm, 2.92 mm and SMA Connectors Types



Generic photo used for illustration purposes only

| | |
|------------|---------------|
| Model No. | ANNEF-50V+ |
| Case Style | LL2592-1 |
| Connectors | 2.4 mm Female |

+RoHS Compliant

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

APPLICATIONS

- Test and Measurement Equipment
- Test Labs
- Defense and Aerospace
- 5G Applications
- Q and V band Communication Links

PRODUCT OVERVIEW

Mini-Circuits' ANNEF-50V+ is an ultra-wideband 50Ω termination capable of absorbing signals up to 1 W from DC to 50 GHz. It provides excellent return loss across its entire operating frequency range, effectively dissipating signal power with minimal reflections. This model has a 2.4 mm-female connector, mechanically compatible with 1.85 mm, 3.5 mm, 2.92 mm and SMA connectors. The unit features rugged construction for a long life of use and comes in a passivated stainless steel case measuring only 0.61" (l) x 0.31" (dia.).

KEY FEATURES

| Features | Advantages |
|---|--|
| Ultra-Wideband, DC to 50 GHz | Extremely wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use. |
| Good Return Loss, 20 dB up to 50 GHz | Good return loss minimizes signal reflections across multiple-decade frequency range. |
| 2.4 mm connector mates with 1.85 mm, 3.5 mm, 2.92 mm and SMA connectors | Provides flexible connection options, avoiding the need for extra adapters. |
| Power Handling up to 1 W | ANNEF-50V+ 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-016342
ANNEF-50V+
MCL NY
260429





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ELECTRICAL SPECIFICATIONS AT 25 °C

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|--------------------------|-----------------|------|------|------|------|
| Frequency Range | | DC | — | 50 | GHz |
| Impedance | | 50 | | | Ohms |
| Return Loss | DC - 18 | 23 | 41 | — | dB |
| | 18 - 35 | 17 | 30 | — | |
| | 35 - 50 | 14.8 | 23 | — | |
| Input Power ¹ | DC - 50 | — | — | 1 | W |

1. At 25 °C, derate linearly to 325 mW at 100 °C.

ABSOLUTE MAXIMUM RATINGS²

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

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



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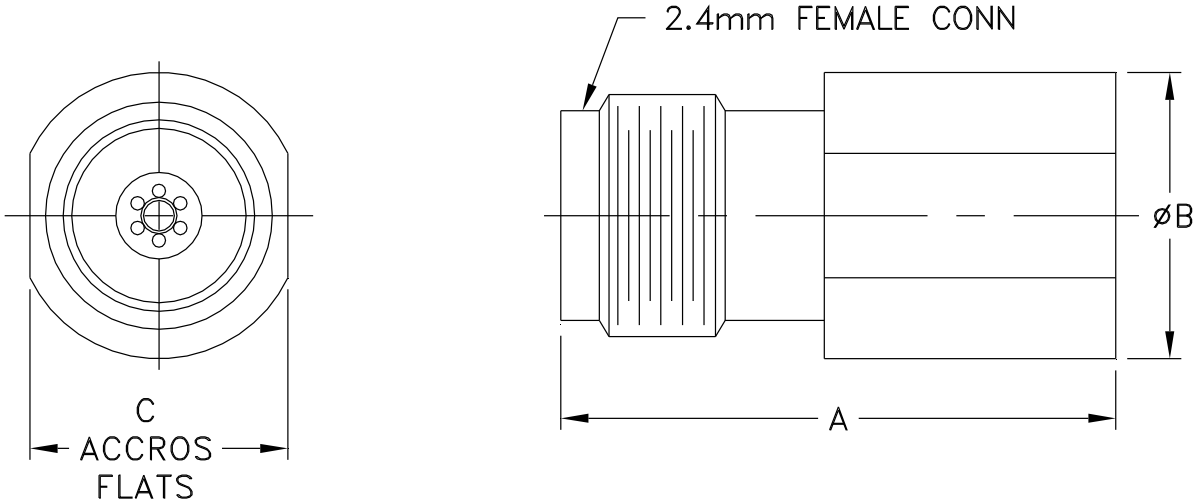
Termination

ANNEF-50V+

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50Ω DC to 50 GHz 2.4 mm Female

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch mm)

| A | B | C | D | E | wt |
|------|------|------|---|---|-------|
| .605 | .312 | .281 | — | — | grams |
| 15.4 | 7.9 | 7.1 | — | — | 4.5 |



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Termination

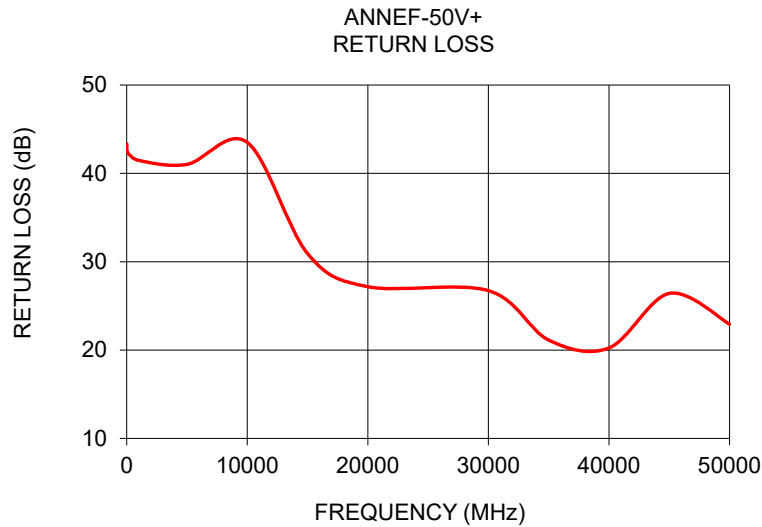
ANNEF-50V+

Mini-Circuits

50Ω DC to 50 GHz 2.4 mm Female

TYPICAL PERFORMANCE DATA

| Frequency (MHz) | Return Loss (dB) |
|-----------------|------------------|
| 10 | 43.3 |
| 100 | 42.3 |
| 1000 | 41.5 |
| 5000 | 41.0 |
| 10000 | 43.5 |
| 15000 | 30.9 |
| 20000 | 27.2 |
| 30000 | 26.7 |
| 35000 | 21.1 |
| 40000 | 20.2 |
| 45000 | 26.4 |
| 50000 | 22.9 |



NOTES

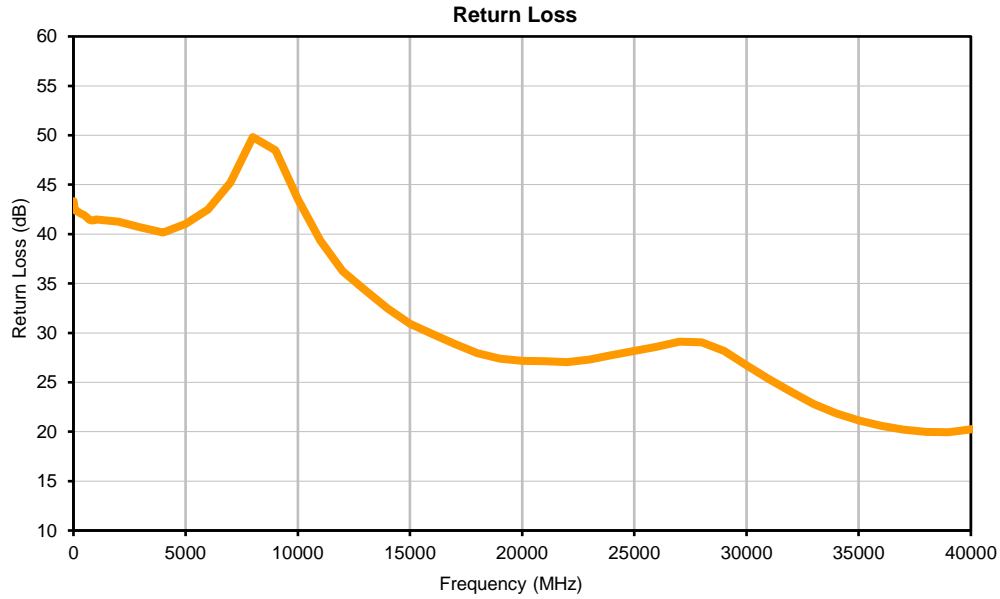
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Typical Performance Data

| FREQUENCY (MHz) | RETURN LOSS (dB) |
|--------------------|---------------------|
| 10 | 43.34 |
| 50 | 42.51 |
| 100 | 42.34 |
| 200 | 42.25 |
| 300 | 42.08 |
| 400 | 42.00 |
| 500 | 41.88 |
| 600 | 41.67 |
| 700 | 41.46 |
| 800 | 41.38 |
| 900 | 41.39 |
| 1000 | 41.47 |
| 2000 | 41.26 |
| 3000 | 40.68 |
| 4000 | 40.17 |
| 5000 | 41.02 |
| 6000 | 42.48 |
| 7000 | 45.20 |
| 8000 | 49.81 |
| 9000 | 48.48 |
| 10000 | 43.51 |
| 11000 | 39.34 |
| 12000 | 36.24 |
| 13000 | 34.31 |
| 14000 | 32.48 |
| 15000 | 30.92 |
| 16000 | 29.88 |
| 17000 | 28.88 |
| 18000 | 27.96 |
| 19000 | 27.41 |
| 20000 | 27.17 |
| 21000 | 27.13 |
| 22000 | 27.03 |
| 23000 | 27.31 |
| 24000 | 27.75 |
| 25000 | 28.17 |
| 26000 | 28.60 |
| 27000 | 29.10 |
| 28000 | 29.03 |
| 29000 | 28.16 |
| 30000 | 26.73 |
| 31000 | 25.32 |
| 32000 | 24.02 |
| 33000 | 22.81 |
| 34000 | 21.87 |
| 35000 | 21.13 |
| 36000 | 20.60 |
| 37000 | 20.21 |
| 38000 | 19.96 |
| 39000 | 19.95 |
| 40000 | 20.24 |
| 41000 | 20.86 |
| 42000 | 21.71 |
| 43000 | 22.99 |
| 44000 | 24.66 |
| 45000 | 26.42 |
| 46000 | 28.03 |
| 47000 | 28.19 |
| 48000 | 27.09 |
| 49000 | 24.74 |
| 50000 | 22.93 |

Typical Performance Curves

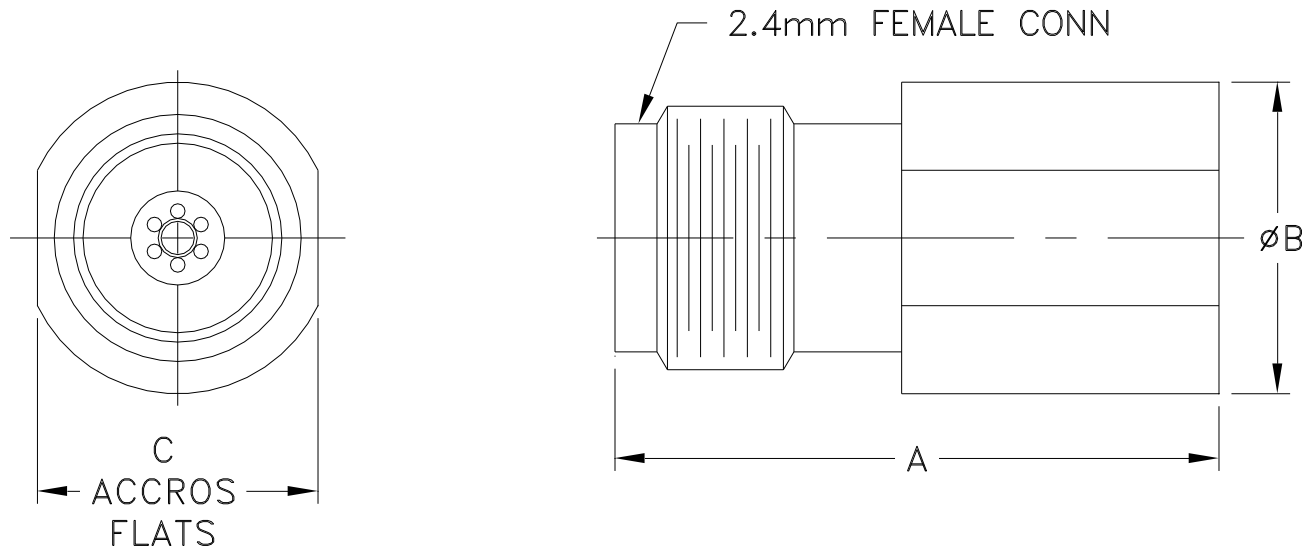


Case Style

LL

Outline Dimensions

LL2592-1



| CASE # | A | B | C | D | E | WT. GRAM |
|----------|----------------|---------------|---------------|----------|----------|----------|
| LL2592-1 | .605 (15.4) | .312 (7.9) | .281 (7.1) | -- -- | -- -- | 4.5 |

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

Notes:

1. Case material: Stainless Steel.
2. Case Finish: Passivated.

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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 |