## THE BIG DEAL

- Ultra-Wideband, DC to 65 GHz
- Excellent Return Loss, 23 dB typ.
- Input Power Handling up to 1W
- Mates with 2.4 mm connector types

Generic photo used for illustration purposes only

| Model No. | ANNEF-50E + |
| :---: | :---: |
| Case Style | LL2592-2 |
| Connectors | 1.85 mm -Female |

## APPLICATIONS

- Cellular communications
- Satellite communications
- Test set-up
- Defense \& radar


## PRODUCT OVERVIEW

Mini-Circuits' ANNEF-50E+ is an ultra-wideband $50 \Omega$ termination capable of absorbing signals up to 1 W from DC to 65 GHz . It provides excellent return loss across its entire operating frequency range, effectively dissipating signal power with minimal reflections. This model has a 1.85 mm -female connector, allowing connections with 2.4 mm type connectors. The unit features rugged construction for a long life of use and comes in a stainless steel case and beryllium copper center conductor measuring only $0.65^{\prime \prime}$ (I) $\times 0.31^{\prime \prime}$ (dia.).

## KEY FEATURES

| Features |  |
| :--- | :--- |
| Ultra-Wideband, DC to 65 GHz | Extremely wide frequency range provides application flexibility and makes this model ideal for broadband and <br> multi-band use. |
| Good Return Loss: 23 dB typ. | Good return loss minimizes signal reflections across multiple-decade frequency range. |
| 1.85 mm -Female Connector mates with | Provides flexible connection options, avoiding the need for extra adapters. |
| 2.4 mm connector | ANNEF-50E+ meets a wide range of system power requirements in a small device size. |
| Power Handling up to 1W | Withstands tough operating conditions and is suitable for use near high power componentry where heat rise is <br> Wide Operating Temperature Range, |
| common. |  |

ELECTRICAL SPECIFICATIONS AT $25^{\circ} \mathrm{C}$

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency Range |  | DC | - | 65 | GHz |
| Impedance |  | 50 |  |  | Ohms |
| Return Loss | $\begin{aligned} & \text { DC }-18 \\ & 18-40 \\ & 40-65 \end{aligned}$ | $\begin{aligned} & 20.8 \\ & 17.7 \\ & 10.0 \end{aligned}$ | $\begin{aligned} & 34 \\ & 27 \\ & 23 \end{aligned}$ |  | dB |
| Input Power ${ }^{1}$ | DC-65 | - | - | 1 | W |

1. Up to $25^{\circ} \mathrm{C}$, derates linearly to 100 mW at $100^{\circ} \mathrm{C}$

ABSOLUTE MAXIMUM RATINGS ${ }^{1}$

| Parameter | Ratings |
| :--- | :---: |
| Operating Temperature | $-55^{\circ} \mathrm{C}$ to $+100^{\circ} \mathrm{C}$ |
| Storage Temperature | $-55^{\circ} \mathrm{C}$ to $+100^{\circ} \mathrm{C}$ |

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

## OUTLINE DRAWING



Weight: 4.6 grams (Max.)
Dimensions are in inches [mm]

TYPICAL PERFORMANCE DATA

| Frequency <br> $(\mathrm{MHz})$ | Return Loss <br> (dB) |
| :---: | :---: |
| 10 | 33.05 |
| 100 | 34.31 |
| 500 | 46.58 |
| 1000 | 54.50 |
| 10000 | 30.59 |
| 18000 | 26.45 |
| 20000 | 24.24 |
| 30000 | 24.45 |
| 40000 | 29.82 |
| 45000 | 27.39 |
| 50000 | 25.77 |
| 55000 | 18.48 |
| 60000 | 14.69 |
| 65000 | 16.09 |



## 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

