

Flexible Coaxial Cable

FL086-XXKM+ Model Series

50Ω DC to 40 GHz

The Big Deal

- Flexible
- Tight Bend Radius, 6mm
- Excellent Return Loss and Insertion Loss
- Ideal for interconnect of assembled systems



CASE STYLE: SE2929-XX

XX= cable length in inches

Product Overview

The FL086 Series Flexible Coaxial Cables are ideal for interconnection of coaxial components or sub-systems. The construction includes a silver-plated copper-clad steel center conductor. The outer shield is copper braid, tin soaked, which minimizes signal leakage and at the same time flexible for easy bend. Dielectric is low loss PTFE. Connectors have passivated stainless-steel coupling nut over a gold plated connector body with gold plated brass center conductor. The FL086 Series Flexible cables are available in variety of length to meet your requirements.

Key Features

| Feature | Advantages |
|---|---|
| Flexible RF Cables | The FL086 Series Flexible cables are ideal for use integrating coaxial components and sub-assemblies without the need for special cable-bending tools and alleviating the risk of damage during the bending process typical of semi-rigid coaxial cable assemblies. |
| Tight Bend Radius: 6mm | Capable of only 6mm bend radius, the FL086 Flexible series is able to make connections in tight spaces making these cables ideal for dense system integration |
| Excellent Return loss <ul style="list-style-type: none">• 31 dB typ. up to 18 GHz• 28 dB typ. up to 40 GHz | The FL086 Series Flexible Cables are ideally suited for interconnecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors. |
| Good Power Handling Capability: <ul style="list-style-type: none">• 198W at 0.5 GHz• 13W at 40 GHz | Mini-Circuits FL086 Cable series can support medium to high RF power levels enabling these cables to be used in the transmit path. NOTE: power rating is at sea-level altitudes. |

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



Flexible Coaxial Cable

50Ω 12 inch DC to 40 GHz

FL086-12KM+



CASE STYLE: SE2929-12

| Connectors | Model |
|-------------|-------------|
| 2.92mm-Male | FL086-12KM+ |

+RoHS Compliant

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

Maximum Ratings

| | | |
|-------------------------|----------------|----------|
| Operating Temperature | -55°C to 105°C | |
| Storage Temperature | -55°C to 105°C | |
| Power Handling at 25°C, | 198W at | 0.5 GHz |
| Sea Level | 140W at | 1 GHz |
| | 99W at | 2 GHz |
| | 57W at | 6 GHz |
| | 45W at | 10 GHz |
| | 33W at | 18 GHz |
| | 16W at | 26.5 GHz |
| | 13W at | 40 GHz |

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

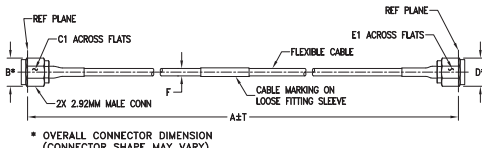
Features

- Wideband frequency coverage, DC to 40 GHz
- Low Loss, 1.5 dB typ. up to 40 GHz
- Excellent Return Loss, 28 dB typ. up to 40 GHz
- Flexible
- 6mm bend radius for tight installations
- Insulated outer jacket standard
- Connector interface, meets MIL-STD-348
- **Ideal for interconnect of assembled systems**

Applications

- Replacement for custom bent 0.086" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace systems
- Environmental and test chambers
- Test accessory

Outline Drawing

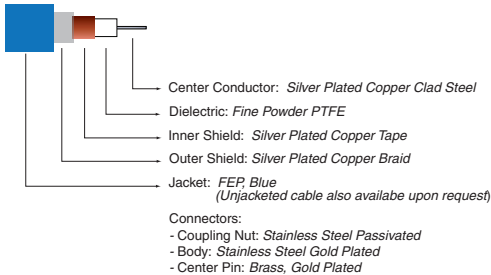


* OVERALL CONNECTOR DIMENSION (CONNECTOR SHAPE MAY VARY)

Outline Dimensions (inch)

| | | | | | |
|--------|------------|------|-------|------|------|
| A | B | C1 | C2 | D | E1 |
| 12.0 | .36 | .315 | -- | .36 | .315 |
| 304.80 | 9.14 | 8.00 | -- | 9.14 | 8.00 |
| E2 | F | T | wt | | |
| -- | 0.106±.004 | 0.1 | grams | | |
| -- | 2.64±0.1 | 2.54 | 12.00 | | |

Cable Construction



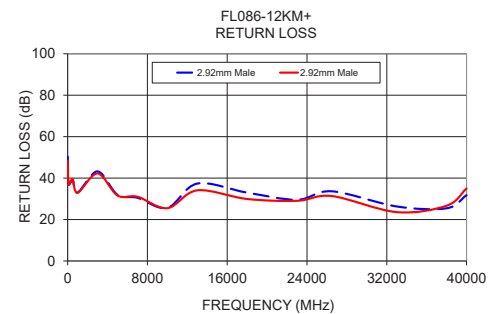
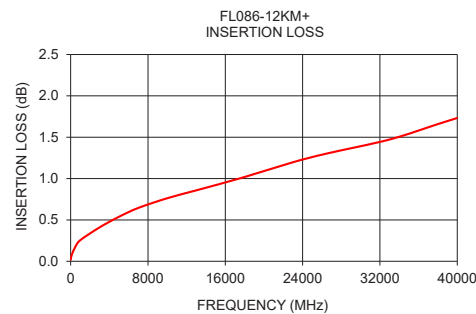
Electrical Specifications at 25°C

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range | | DC | | 40 | GHz |
| Length ¹ | | | 12 | | inches |
| Insertion Loss | DC - 6 | — | 0.4 | 0.9 | dB |
| | 6 - 18 | — | 0.8 | 1.6 | |
| | 18 - 26.5 | — | 1.2 | 2.0 | |
| Return Loss | 26.5 - 40 | — | 1.5 | 2.5 | dB |
| | DC - 18 | 19 | 31 | — | |
| | 18 - 40 | 17 | 28 | — | |

1. Custom sizes available, consult factory.

Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | |
|-----------------|---------------------|------------------|-------------|
| | | 2.92mm-Male | 2.92mm-Male |
| 10 | 0.02 | 50.34 | 48.48 |
| 100 | 0.07 | 37.29 | 36.93 |
| 500 | 0.18 | 38.93 | 39.58 |
| 1000 | 0.26 | 33.03 | 32.96 |
| 3000 | 0.41 | 43.21 | 42.25 |
| 5000 | 0.54 | 31.92 | 31.59 |
| 7000 | 0.64 | 30.49 | 31.00 |
| 10000 | 0.76 | 25.64 | 25.49 |
| 13000 | 0.86 | 37.36 | 34.10 |
| 18000 | 1.02 | 32.98 | 29.92 |
| 23000 | 1.20 | 29.54 | 29.05 |
| 26500 | 1.30 | 33.63 | 31.33 |
| 33000 | 1.47 | 26.30 | 23.57 |
| 38000 | 1.66 | 25.43 | 26.67 |
| 40000 | 1.73 | 31.74 | 34.98 |



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