



FLEXIBLE

Coaxial Cable

FL086-12-35M+

Mini-Circuits

50Ω 12 inch DC to 26.5 GHz 3.5mm-Male

THE BIG DEAL

- Wideband frequency coverage, DC to 26.5 GHz
- Low Loss, 1.29 dB typ. at 26.5 GHz
- Excellent Return Loss, 26 dB at 26.5 GHz
- 6mm bend radius for tight installations
- Insulated outer jacket standard
- Connector interface, meets MIL-STD-348
- Ideal for interconnect of assembled systems



Generic photo used for illustration purposes only

| | |
|------------|---------------|
| Model No. | FL086-12-35M+ |
| Case Style | SE2930-12 |
| Connectors | 3.5mm-Male |

APPLICATIONS

- Replacement for custom bent 0.086" semi-rigid cables
- Communication Receivers and Transmitters
- Military and Aerospace Systems
- Environmental and Test Chambers
- Test Accessory

+RoHS Compliant

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

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, silver-plated, which minimizes signal leakage and at the same time flexible for easy bend. Dielectric is low loss PTFE. Connectors have brass coupling nut over nickel plated body with a 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 | 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">• 33 dB typ. at 18 GHz• 26 dB typ. at 26.5 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• 16W at 26.5 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. |





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ELECTRICAL SPECIFICATIONS AT +25°C

| Parameter | Frequency (GHz) | Min. | Typ. | Max. | Units |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range | | DC | — | 26.5 | GHz |
| Length ¹ | | 12 | | | inches |
| Insertion Loss | DC - 2 | — | 0.2 | 0.5 | dB |
| | 2 - 6 | — | 0.5 | 0.9 | |
| | 6 - 18 | — | 0.8 | 1.6 | |
| | 18 - 26.5 | — | 1.2 | 2.0 | |
| Return Loss | DC - 18 | 19 | 33 | — | dB |
| | 18 - 26.5 | 17 | 25 | — | |

1. Custom sizes available, consult factory.

ABSOLUTE MAXIMUM RATINGS

| Parameter | Ratings |
|-----------------------------------|-----------------|
| Operating Temperature | -55°C to +105°C |
| Storage Temperature | -55°C to +105°C |
| Power Handling at 25°C, Sea Level | 198W at 0.5 GHz |
| | 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 |

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





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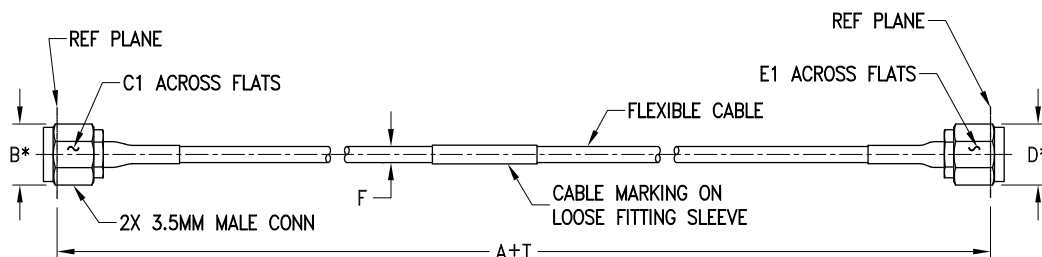
CABLE CONSTRUCTION



- Center Conductor: Silver Plated Copper Clad Steel
- Dielectric: Solid PTFE
- Inner Shield: Silver Plated Copper Strip
- Outer Shield: Silver Plated Copper Braid
- Jacket: FEP, Blue
(Unjacketed cable also available upon request)

Connectors:
Coupling Nut: Stainless Steel Passivated
Body: Stainless Steel Gold Plated
Center Pin: Brass, Gold Plated

OUTLINE DRAWING



* OVERALL CONNECTOR DIMENSION
(CONNECTOR SHAPE MAY VARY)

OUTLINE DIMENSIONS (Inch mm)

| A | B | C1 | C2 | D | E1 | E2 | T | wt |
|--------|------|------|----|------|------|----|------|-------|
| 12.0 | .36 | .315 | -- | .36 | .315 | -- | 0.1 | grams |
| 304.80 | 9.14 | 8.00 | -- | 9.14 | 8.00 | -- | 2.54 | 12.40 |





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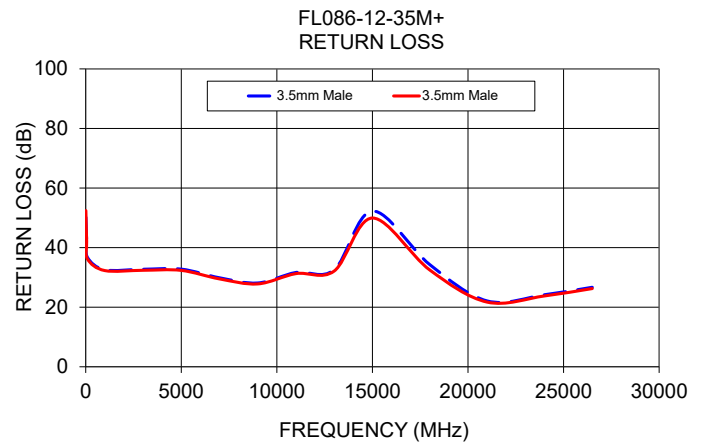
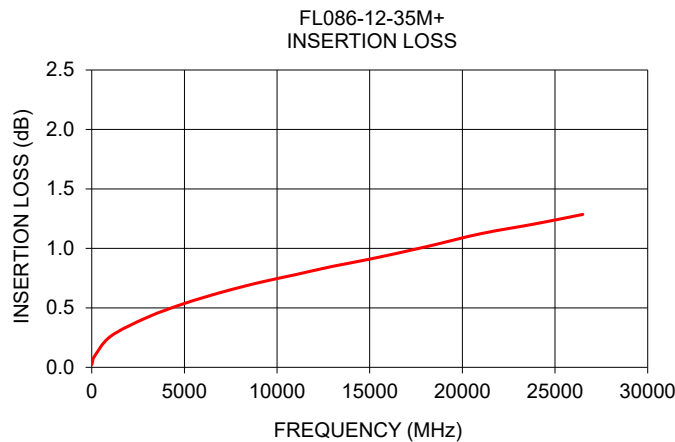
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TYPICAL PERFORMANCE DATA AND CHARTS

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | |
|-----------------|---------------------|------------------|------------|
| | | 3.5mm-Male | 3.5mm-Male |
| 10 | 0.02 | 50.20 | 52.42 |
| 50 | 0.05 | 42.40 | 42.15 |
| 100 | 0.08 | 36.63 | 36.13 |
| 1000 | 0.26 | 32.55 | 32.30 |
| 3000 | 0.42 | 32.74 | 32.39 |
| 5000 | 0.54 | 32.78 | 32.36 |
| 7000 | 0.63 | 29.87 | 29.50 |
| 9000 | 0.71 | 28.13 | 27.82 |
| 11000 | 0.78 | 31.66 | 31.28 |
| 13000 | 0.85 | 32.56 | 32.14 |
| 15000 | 0.91 | 52.28 | 49.93 |
| 18000 | 1.01 | 34.29 | 32.48 |
| 21000 | 1.12 | 22.10 | 21.71 |
| 24000 | 1.21 | 24.18 | 23.78 |
| 26500 | 1.29 | 26.69 | 26.26 |



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

