



Coaxial Cable

047-SMPR+ Series

50Ω DC to 18 GHz

The Big Deal

- Miniature Hand Formable
- Tight Bend Radius, 3.2mm
- Right-angle SMP-F blind mate push-on / snap-on connectors



CASE STYLE: BZ2421HXX

XX= cable length in inches

Product Overview

The 047 Series Hand-Flex Coaxial Cables are ideal for interconnection of coaxial components or sub-systems in tight spaces. The outer shield is tin plated copper braid and tin soaked, which minimizes signal leakage and at the same time flexible for easy bend. Right-angle SMP-F blind mate push-on / snap-on connectors make these cables ideal for connections between adjacent modules in crowded system layouts. The 047 Series Hand-Flex Cables features gold plated beryllium copper construction. The 047 Series Cables are available in variety of length to meet your requirements.

Key Features

| Feature | Advantages |
|---|--|
| Hand-Formable RF Cables | The 047 Series Hand-Flex cables are hand formable making them 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, 3.2mm | Capable of only 3.2mm bend radius, the 047 Hand-Flex series is able to make connections in tight spaces making these cables ideal for dense system integration. |
| Right-angle SMP-F blind mate push-on / snap-on connectors | Ideal for interconnect of adjacent modules with tight space constraints without sacrificing high-frequency performance due to severe bend near the connector interface. |
| Excellent Return loss, • 30 dB at 6 GHz • 26 dB at 18 GHz | The 047 Series Hand-Flex 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: • 22.5W at 0.5 GHz • 4.5W at 18 GHz | Mini-Circuits' 047 Cable series can support medium to high RF power levels enabling these cables to be used in the transmit path. |

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





Coaxial Cable

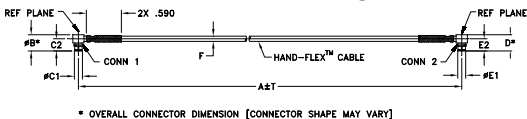
50Ω 6 inch DC to 18 GHz

Maximum Ratings

| | | |
|-----------------------------------|------------------|--|
| Operating Temperature | -45°C to 85°C | |
| Storage Temperature | -45°C to 85°C | |
| Power Handling at 25°C, Sea Level | 22.5W at 0.5 GHz | |
| | 11W at 2 GHz | |
| | 5.5W at 6 GHz | |
| | 4.6W at 10 GHz | |
| | 4.5W at 18 GHz | |

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

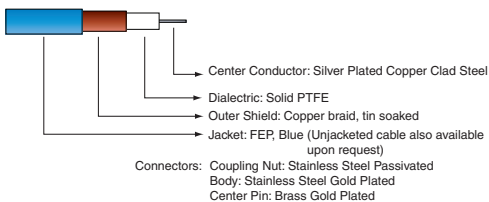
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | |
|--------|------|------|-------|------|------|
| A | B | C1 | C2 | D | E1 |
| 6.0 | .14 | .135 | .287 | .14 | .135 |
| 152.40 | 3.56 | 3.43 | 7.29 | 3.56 | 3.43 |
| E2 | F | T | wt | | |
| .289 | .069 | 0.05 | grams | | |
| 7.34 | 1.75 | 1.27 | 2.20 | | |

Cable Construction



047-6SMRP+



Generic photo used for illustration purposes only

CASE STYLE: BZ2421H6

| | |
|------------------------|------------|
| Connectors | Model |
| Right Angle SMP-Female | 047-6SMRP+ |

+RoHS Compliant

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

Features

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.77 dB at 18 GHz
- Excellent Return Loss, 26 dB at 18 GHz
- Hand formable to almost any custom shape without special bending tools
- 3.2mm bend radius for tight installations
- Connector interface, meets MIL-STD-348
- **Ideal for interconnect of assembled systems**

Applications

- Replacement for custom bent 0.047" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers

Electrical Specifications at 25°C

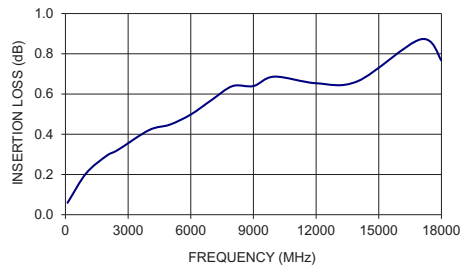
| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range | | DC | | 18 | GHz |
| Length ¹ | | | 6 | | Inches |
| Insertion Loss | DC - 2 | — | 0.21 | 0.52 | dB |
| | 2 - 6 | — | 0.37 | 0.97 | |
| | 6 - 10 | — | 0.55 | 1.22 | |
| | 10 - 18 | — | 0.75 | 1.66 | |
| Return Loss | DC - 2 | 20 | 30 | — | dB |
| | 2 - 6 | 20 | 33 | — | |
| | 6 - 10 | 17 | 31 | — | |
| | 10 - 18 | 17 | 25 | — | |

1. Custom sizes available, consult factory.

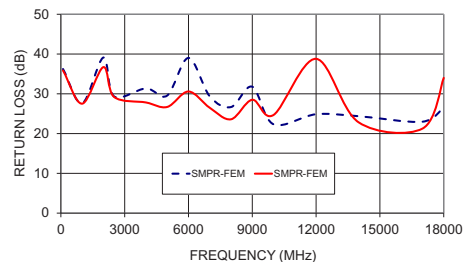
Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | |
|-----------------|---------------------|------------------------|------------------------|
| | | Right angle SMP-Female | Right angle SMP-Female |
| 100 | 0.06 | 36.2 | 35.9 |
| 1000 | 0.21 | 27.6 | 27.5 |
| 2000 | 0.29 | 39.1 | 36.7 |
| 2500 | 0.32 | 29.4 | 29.2 |
| 4000 | 0.42 | 31.3 | 27.8 |
| 5000 | 0.45 | 29.6 | 26.7 |
| 6000 | 0.50 | 39.0 | 30.6 |
| 7000 | 0.57 | 29.4 | 26.5 |
| 8000 | 0.64 | 26.7 | 23.6 |
| 9000 | 0.64 | 31.8 | 28.5 |
| 10000 | 0.69 | 22.3 | 24.7 |
| 12000 | 0.65 | 24.9 | 38.8 |
| 14000 | 0.66 | 24.4 | 22.8 |
| 17000 | 0.87 | 23.0 | 21.3 |
| 18000 | 0.77 | 26.7 | 34.0 |

047-6SMRP+ INSERTION LOSS



047-6SMRP+ RETURN LOSS



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