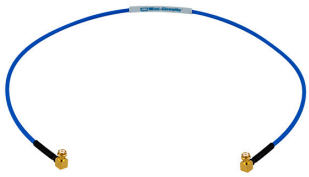
Coaxial Cable

047-SMPR+ Series

50Ω DC to 18 GHz



CASE STYLE: BZ2421HXX

XX= cable length in inches

The Big Deal

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

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 • 40 dB at 6 GHz • 20 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.

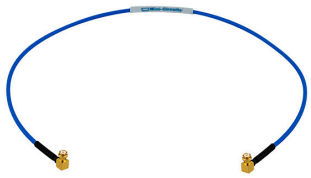
Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

HAND FLEX™

Coaxial Cable

047-3SMPR+

50Ω 3 inch DC to 18 GHz



CASE STYLE: BZ2421H3

Connectors	Model
Right Angle SMP-Female	047-3SMPR+

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 15.5W at 1 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.

Features

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.49 dB at 18 GHz
- Excellent Return Loss, 25 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**

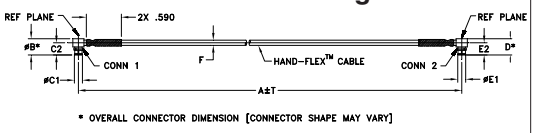
Applications

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

+RoHS Compliant

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

Outline Drawing



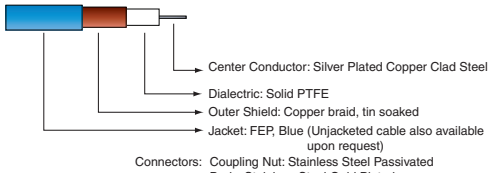
* OVERALL CONNECTOR DIMENSION (CONNECTOR SHAPE MAY VARY)

Outline Dimensions (inch / mm)

A	B	C1	C2	D	E1
3.0	.14	.135	.287	.14	.135
76.20	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	1.40

Cable Construction



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

Electrical Specifications at 25°C

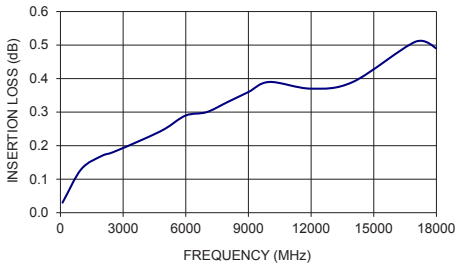
Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		18	GHz
Length[1]			3		Inches
Insertion Loss	DC - 2	—	0.11	0.38	dB
	2 - 6	—	0.19	0.69	
	6 - 10	—	0.31	0.88	
	10 - 18	—	0.39	1.19	
Return Loss	DC - 2	20	31	—	dB
	2 - 6	20	28	—	
	6 - 10	17	31	—	
	10 - 18	17	24	—	

1. Custom sizes available, consult factory.

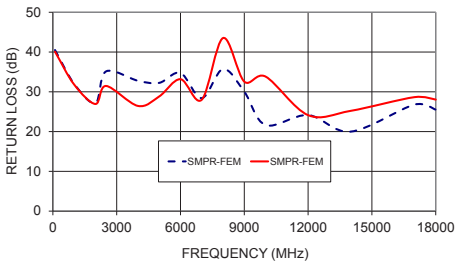
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Right angle SMP-Female	Right angle SMP-Female
100	0.03	40.5	40.1
1000	0.13	32.0	31.8
2000	0.17	27.2	26.9
2500	0.18	35.1	31.5
4000	0.22	32.8	26.5
5000	0.25	32.3	28.8
6000	0.29	34.7	33.2
7000	0.30	28.4	28.0
8000	0.33	35.7	43.5
9000	0.36	30.0	32.6
10000	0.39	21.6	33.8
12000	0.37	24.2	24.1
14000	0.39	20.0	25.2
17000	0.51	26.8	28.7
18000	0.49	25.5	28.0

047-3SMPR+
INSERTION LOSS



047-3SMPR+
RETURN LOSS



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