



Mini-Circuits

HAND  
FLEX™

# Coaxial Cable

086-3SBSMR+

50Ω 3 inch DC to 18 GHz Right Angle SMA-Male to SMA-Female Bulkhead

## THE BIG DEAL

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.28 dB at 18 GHz
- Excellent Return Loss, 18 dB at 18 GHz
- SMA-F bulkhead connector at one end
- Hand formable to almost any custom shape without special bending tools
- 6 mm bend radius for tight installations
- Anti-torque nut prevents cable stress during installation
- Insulated outer jacket standard
- Connector interface, meets MIL-STD-348
- Ideal for interconnect of assembled systems

## APPLICATIONS

- Bulkhead connector mounts on front panel of equipment rack
- Replacement for custom bent 0.086" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers



Generic photo used for illustration purposes only

Model No.	086-3SBSMR+
Case Style	KP1680-3
Connectors	Right Angle SMA-Male to SMA-Female Bulkhead

### +RoHS Compliant

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

## PRODUCT OVERVIEW

086-SBSMR+ Series Hand-Flex™ coaxial cables are ideal for interconnecting coaxial components and sub-assemblies in a wide range of systems, including communications, military and aerospace, environmental and test chamber systems and more. The hand-formable cable provides a minimum bend radius of 6mm to accommodate tight layouts without the need for bending tools, adapters or brackets. SMA right angle to SMA bulkhead connectors make these cables ideal for perpendicular connections run directly to the front panel of rack-mounted equipment. The connectors feature an anti-torque nut to prevent cable stress during installation and an insulated outer jacket to minimize signal leakage. They are available in a range of lengths to meet a variety of connection requirements.

## KEY FEATURES

Feature	Advantages
Hand-Formable RF Cables	Facilitates the assembly of coaxial systems and sub-systems without the need for special cable-bending tools or adapters. Reduces the risk of damage during bending
Tight Bend Radius	6mm bend-radius makes the cable ideal for connections in tight spaces and crowded layouts
18 GHz Right-Angle SMA connector	Meets requirements of 90°connections without bending and without sacrificing high-frequency performance
18 GHz SMA Bulkhead connector	Ideal for making secure connections directly through equipment chassis panels
Excellent Return loss	Suitable for interconnecting a variety of RF components while minimizing VSWR ripple contribution
Good Power Handling Capability: <ul style="list-style-type: none"><li>• 211 W at 0.5 GHz</li><li>• 35 W at 18 GHz</li></ul>	Supports medium to high RF power levels used in transmit paths.
Anti-torque nut	Reduces risk of twist damage to cable during installation

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PAGE 1 OF 4



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**ELECTRICAL SPECIFICATIONS AT +25°C**

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length <sup>1</sup>		3			inches
Insertion Loss	DC - 2	—	0.11	0.30	dB
	2 - 6	—	0.18	0.52	
	6 - 10	—	0.25	0.68	
	10 - 18	—	0.36	0.93	
Return Loss	DC - 2	23	28	—	dB
	2 - 6	22	23	—	
	6 - 10	17	18	—	
	10 - 18	16	18	—	

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	211 W at 0.5 GHz 150 W at 1 GHz 104 W at 2 GHz 59 W at 6 GHz 45 W at 10 GHz 35 W at 18 GHz

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





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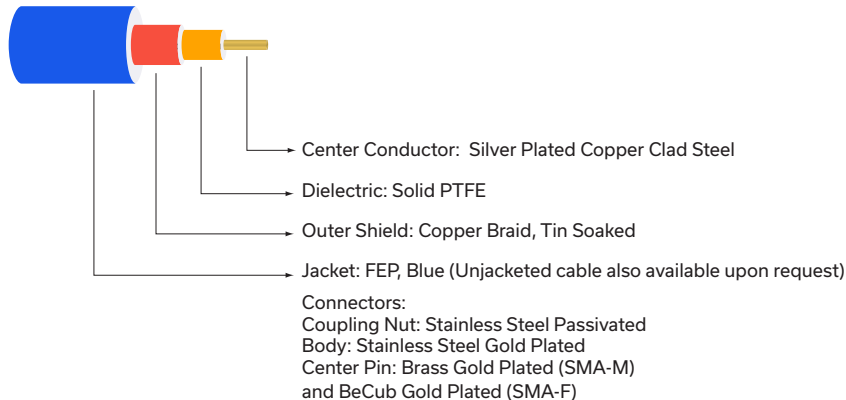
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# Coaxial Cable

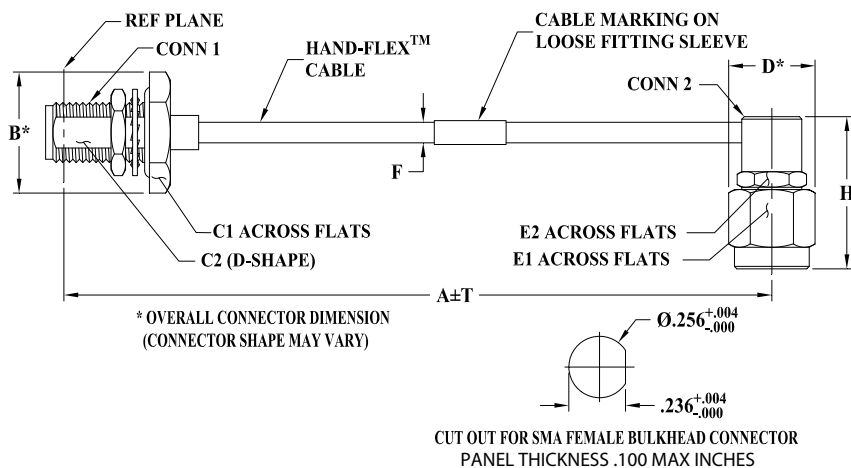
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## CABLE CONSTRUCTION



## OUTLINE DRAWING



## OUTLINE DIMENSIONS (Inch mm)

A	B	C1	C2	D	E1	E2	F	H	T	wt grams
3.0	.51	.438	.232	.36	.313	.250	.108	0.634	0.05	8.17
76.20	12.95	11.13	5.89	9.14	7.95	6.35	2.75	16.10	1.27	





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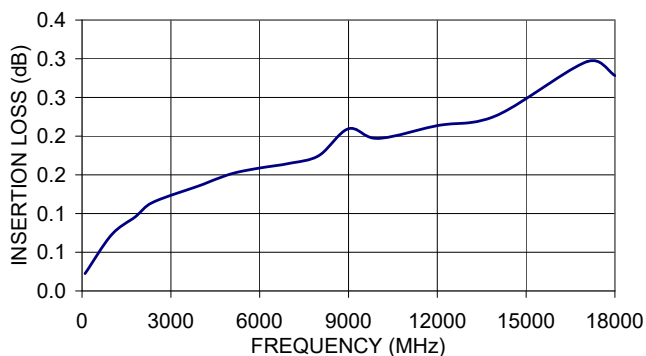
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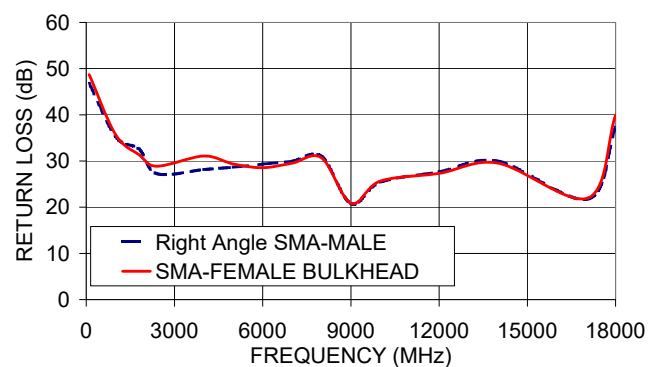
## TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Right Angle SMA-Male	SMA-Female Bulkhead
100	0.02	46.8	48.7
1000	0.07	35.3	35.7
1800	0.10	32.6	31.3
2404	0.11	27.3	28.9
4001	0.14	28.2	31.1
5000	0.15	28.7	29.4
6000	0.16	29.3	28.6
7001	0.16	29.9	29.5
8001	0.17	31.0	30.7
9000	0.21	20.8	20.9
10000	0.20	25.4	25.7
12001	0.21	27.7	27.3
14001	0.23	30.0	29.5
17069	0.30	21.8	22.0
18000	0.28	37.3	39.9

086-3SBSMR+  
INSERTION LOSS



086-3SBSMR+  
RETURN LOSS



### NOTES

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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](http://www.minicircuits.com/terms/viewterm.html)

