HAND FLEX™

# Coaxial Cable

## 086-SBSMR+ Model Series

50Ω DC to 18 GHz




CASE STYLE: KP1680

## The Big Deal

- Hand-formable with 6mm bend radius
- SMA-M right-angle to SMA-F bulkhead connectors
- Excellent return and insertion loss
- Ideal for assembled systems

## 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.

| 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<br>• 211 W at 0.5 GHz<br>• 35 at 18 GHz | Supports medium to high RF power levels used in transmit paths. |
| Anti-torque nut | Reduces risk of twist damage to cable during installation. |

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

## 086-3SBSMR+

50Ω  3 inch  DC to 18 GHz




CASE STYLE: KP1680-3

| Connectors | | Model |
|---|---|---|
| Conn1 | Conn2 | |
| Right Angle SMA-M | SMA-F Bulkhead | 086-3SBSMR+ |

***+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, Sea Level | 211W at 0.5 GHz<br>150W at 1 GHz<br>101W at 2 GHz<br>59W at 6 GHz<br>45W at 10 GHz<br>35W at 18 GHz |

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

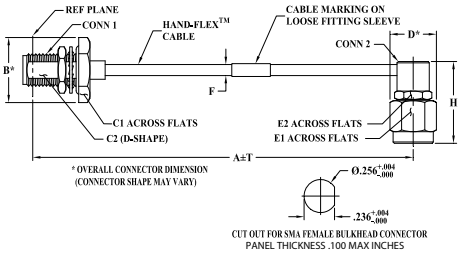
### Features

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, .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
- 6mm 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 racks
- Replacement for custom bent 0.086" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers

### Outline Drawing

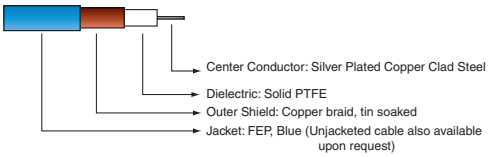



### Outline Dimensions (inch / mm)

| A | B | C1 | C2 | D | E1 |
|---|---|---|---|---|---|
| 3.0 | .51 | .438 | .232 | .36 | .313 |
| 76.20 | 12.95 | 11.13 | 5.89 | 9.14 | 7.95 |

| E2 | F | H | T | wt |
|---|---|---|---|---|
| .250 | .108 | 0.634 | 0.05 | grams |
| 6.35 | 2.75 | 16.10 | 1.27 | 8.17 |

### Cable Construction




Connectors: Coupling Nut: Stainless Steel Passivated
Body: Stainless Steel Gold Plated
Center Pin: Brass, Gold Plated (SMA-M) and BeCuB Gold Plated (SMA-F)

### Electrical Specifications at 25°C

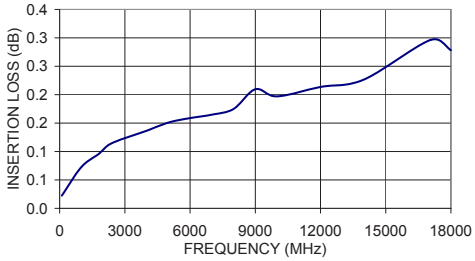
| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| **Frequency Range** | | DC | | 18 | GHz |
| **Length**[1] | | | 3 | | inches |
| **Insertion Loss** | DC - 2 | — | 0.11 | 0.30 | dB |
| | 2 - 6 | — | 0.18 | 0.52 | |
| | 6 - 10 | — | 0.25 | .68 | |
| | 10 - 18 | — | 0.36 | .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.

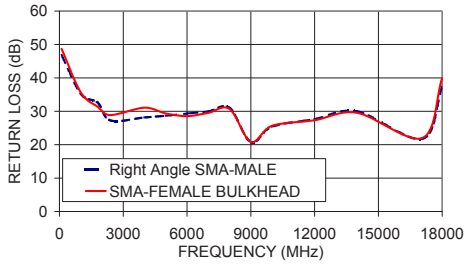
### Typical Performance Data

| 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




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