HAND FLEX™

# Coaxial Cable

## 141 SBSMR Model Series

50Ω DC to 18 GHz

## The Big Deal

- Hand formable with tight bend radius
- SMA-F bulkhead connector at one end
- Right Angle SMA Male Connector
- Ideal for interconnect of assembled systems

CASE STYLE: KQ1927-XX

XX= cable length in inches

## Product Overview

The 141 SBSMR Series Hand-Flex Coaxial Cables are ideal for interconnection of coaxial components or sub-systems to equipment racks. The construction includes a silver-plated copper-clad steel center conductor which maintains the shape after bending. The outer shield is copper braid, tin soaked, which minimizes signal leakage and at the same time flexible for easy bend. Dielectric is low loss PTFE. Both connectors have passivated stainless-steel coupling nut. Right Angle SMA-M has a gold plated connector body, brass center conductor and SMA-F has gold plated BeCuB center conductor.

## Key Features

| Feature | Advantages |
|---|---|
| Hand-Formable RF Cables | The 141 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. |
| SMA-F bulkhead connector at one end | Mounts directly on equipment racks eliminating need for bulkhead adapter, thereby improving reliability. |
| Tight Bend Radius 8mm | Capable of only 8mm bend radius, the 141 Hand Flex series is able to make connections in tight spaces making these cables ideal for dense system integration. |
| Excellent Return loss<br>• 36 dB typ. at 6 GHz<br>• 20 dB typ. at 18 GHz | The 141 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:<br>• 211W at 0.5 GHz<br>• 35W at 18 GHz | 141 SBSM coaxial cables can support medium to high RF power levels and can be used in the transmit path. (Power rating at sea-level). |
| Built in Anti-torque nut on SMA-Male connector | Mini-Circuits 141 Series Hand Flex cables include an anti-torque feature to support the straight SMA connector body during installation alleviating risk of stress to the connector/cable interface |
| Right angle SMA connectors | Avoids multiple right angle bends and improves reliability. |

HAND FLEX™

# Coaxial Cable

# 141-36SBSMR+

## 50Ω 36 inch DC to 18 GHz

CASE STYLE: KQ1927-36

| Connectors | Model |
|---|---|
| SMA-Female Bulkhead / Right Angle SMA-Male | 141-36SBSMR+ |

**+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 | 546W | at 0.5 GHz |
| | 387W | at 1 GHz |
| | 273W | at 2 GHz |
| | 156W | at 6 GHz |
| | 121W | at 10 GHz |
| | 90W | at 18 GHz |

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

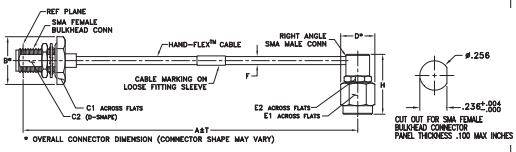
## Features

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 2.12 dB typ. at 18 GHz
- Excellent Return Loss, 20 dB typ. at 18 GHz
- SMA-F bulkhead connector at one end
- Hand formable to almost any custom shape without special bending tools
- 8mm 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 0.141" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers

## Outline Drawing

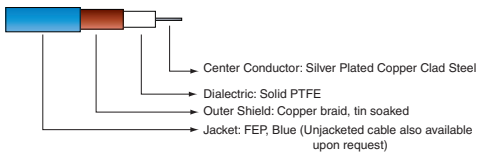



## Outline Dimensions (inch / mm)

| A | B | C1 | C2 | D | E1 |
|---|---|---|---|---|---|
| 36.0 | .51 | .438 | .232 | .36 | .313 |
| 914.40 | 12.95 | 11.13 | 5.89 | 9.14 | 7.95 |

| E2 | F | H | T | wt |
|---|---|---|---|---|
| .250 | .163±.004 | .728±.02 | .20 | grams |
| 6.35 | (4.14±0.10) | 18.50±0.5 | 5.08 | 47.35 |

## Cable Construction




SMA-Male Connectors:
Coupling Nut: Stainless Steel Passivated
Body: Stainless Steel Gold Plated
Center Pin: Silver Plated Copper Clad Steel

SMA-F Bulkhead Connectors:
Hex Nut: Stainless Steel, Gold Plated
Body: Stainless Steel, Gold Plated
Socket: BeCu, Gold Plated

## Electrical Specifications at 25°C

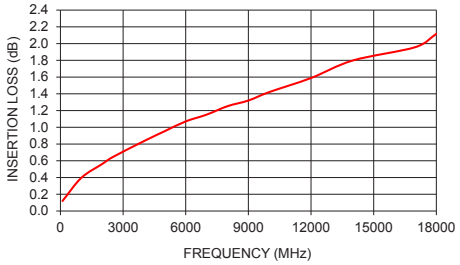
| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| **Frequency Range** | | DC | | 18 | GHz |
| **Length**[1] | | | 36 | | inches |
| **Insertion Loss** | DC - 2 | — | 0.4 | 0.9 | dB |
| | 2 - 6 | — | 0.7 | 1.5 | |
| | 6 - 10 | — | 1.2 | 2.1 | |
| | 10 - 18 | — | 1.6 | 2.9 | |
| **Return Loss** | DC - 2 | 23 | 42 | — | dB |
| | 2 - 6 | 23 | 39 | — | |
| | 6 - 10 | 17 | 34 | — | |
| | 10 - 18 | 17 | 29 | — | |

1. Custom sizes available, consult factory.

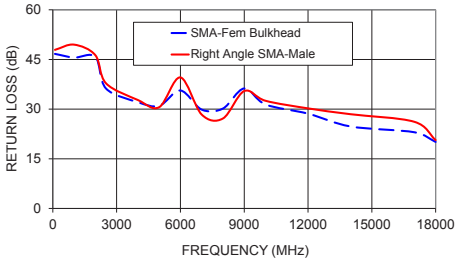
## Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | |
|---|---|---|---|
| | | SMA-Female Bulkhead | Right Angle SMA-Male |
| 100 | 0.12 | 46.7 | 47.9 |
| 1000 | 0.40 | 45.6 | 49.5 |
| 2000 | 0.56 | 45.8 | 46.3 |
| 2500 | 0.64 | 36.2 | 37.8 |
| 4000 | 0.84 | 32.1 | 32.7 |
| 5000 | 0.95 | 31.0 | 30.6 |
| 6000 | 1.07 | 35.6 | 39.6 |
| 7000 | 1.15 | 29.9 | 28.4 |
| 8000 | 1.25 | 30.2 | 27.2 |
| 9000 | 1.32 | 36.2 | 35.5 |
| 10000 | 1.42 | 31.4 | 32.5 |
| 12000 | 1.59 | 28.6 | 30.2 |
| 14000 | 1.80 | 24.8 | 28.5 |
| 17000 | 1.96 | 23.0 | 26.2 |
| 18000 | 2.12 | 20.1 | 20.6 |

141-36SBSMR+
INSERTION LOSS




141-36SBSMR+
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

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