



# Coaxial Cable

# 141 SBSM Model Series

50Ω DC to 18 GHz

## The Big Deal

- SMA-M to SMA-F bulkhead connector
- Hand-formable with 8mm min. bend radius
- Excellent return loss
- Low insertion loss



CASE STYLE: KQ1688-XX

XX= cable length in inches

## Product Overview

141-SBSM+ series Hand-Flex coaxial cables are ideal for integrating coaxial components and sub-assemblies in tight spaces and dense system configurations. SMA-female bulkhead connector at one end is equipped with a nickel-plated brass flange for secure connections directly to equipment housing panels. SMA-male connector has a passivated stainless-steel coupling nut over a gold-plated connector body. The outer shield is tin-soaked copper braid, which minimizes signal leakage with high flexibility for easy bending, and dielectric is low loss PTFE.

141 SBSM model series Hand-Flex coaxial cables are available in various lengths for different system requirements.

## Key Features

| Feature   | Advantages   |
|---|--|
| Single SMA-female bulkhead connector  | Eliminates the need for a bulkhead adapter and connects directly to the front panel of rack-mounted equipment, improving reliability and reducing system cost. |
| Hand-formable   | Hand-Flex cables avoid the need for special cable bending tools, alleviating the risk of damage during bending processes used in semi-rigid cable assemblies.  |
| 8mm bend-radius   | Ideal for making connections in tight spaces and dense system layouts.   |
| Excellent return loss <ul style="list-style-type: none"> <li>• 38 dB at 6 GHz</li> <li>• 31 dB at 18 GHz</li> </ul>         | Ideal for connecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables and connectors.                            |
| Good power handling capability <ul style="list-style-type: none"> <li>• 546W at 0.5 GHz</li> <li>• 90W at 18 GHz</li> </ul> | 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  | Anti-torque feature supports the SMA connector body during installation, preventing stress to the connector/cable interface.                                   |
| Good power handling <ul style="list-style-type: none"> <li>• 211W at 0.5 GHz</li> <li>• 35W at 18 GHz</li> </ul>            | Supports medium to high RF power levels used in transmit paths.  |

### 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](http://www.minicircuits.com/MCLStore/terms.jsp)





# Coaxial Cable

50Ω 24 inch DC to 18 GHz

## 141-24SBSM+

### 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, 1.34 dB at 18 GHz
- Excellent Return Loss, 31 dB at 18 GHz
- 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<sup>1</sup>
- **Ideal for interconnect of assembled systems**

### Applications

- Replacement for custom bent 0.141" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers



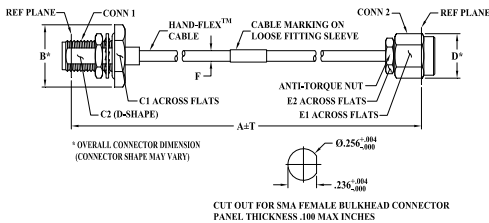
CASE STYLE: KQ1688-24

| Connectors                     | Model       |
|--------------------------------|-------------|
| SMA-Female Bulkhead / SMA-Male | 141-24SBSM+ |

### +RoHS Compliant

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

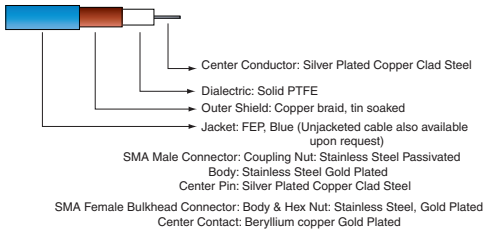
### Outline Drawing



### Outline Dimensions (inch/mm)

| A      | B     | C1        | C2   | D     |
|--------|-------|-----------|------|-------|
| 24.0   | .51   | .438      | .232 | .36   |
| 609.60 | 12.95 | 11.13     | 5.89 | 9.14  |
| E1     | E2    | F         | T    | wt    |
| .313   | .250  | .163±.004 | .15  | grams |
| 7.95   | 6.35  | 4.14±0.10 | 3.81 | 33.03 |

### Cable Construction



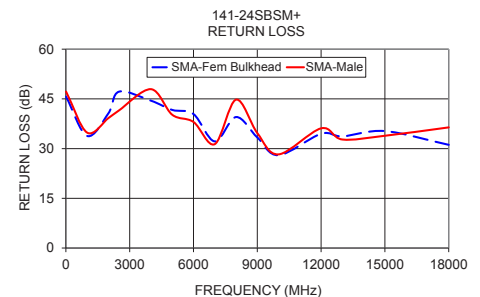
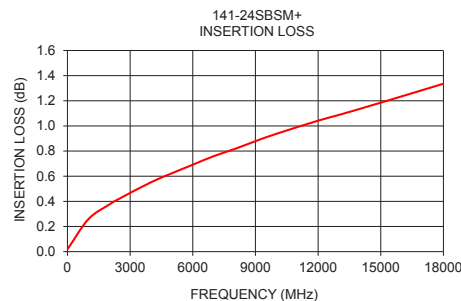
### Electrical Specifications at 25°C

| Parameter           | Condition (GHz) | Min. | Typ. | Max. | Unit   |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range     |                 | DC   |      | 18   | GHz    |
| Length <sup>2</sup> |                 |      | 24   |      | inches |
| Insertion Loss      | DC - 2          | —    | 0.2  | 0.6  | dB     |
|                     | 2 - 6           | —    | 0.5  | 1.1  |        |
|                     | 6 - 10          | —    | 0.8  | 1.4  |        |
| Return Loss         | 10 - 18         | —    | 1.1  | 2.0  | dB     |
|                     | DC - 2          | 23   | 38   | —    |        |
|                     | 2 - 6           | 23   | 42   | —    |        |
| Return Loss         | 6 - 10          | 17   | 36   | —    | dB     |
|                     | 10 - 18         | 17   | 33   | —    |        |

1. Unjacketed cable also available upon request.
2. Custom sizes available, consult factory.

### Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB)    |          |
|-----------------|---------------------|---------------------|----------|
|                 |                     | SMA-Female Bulkhead | SMA-Male |
| 10              | 0.02                | 45.67               | 47.19    |
| 1000            | 0.26                | 33.82               | 34.82    |
| 2000            | 0.37                | 40.65               | 39.21    |
| 2500            | 0.42                | 47.18               | 41.53    |
| 4000            | 0.55                | 44.46               | 47.93    |
| 5000            | 0.62                | 41.67               | 40.21    |
| 6000            | 0.69                | 40.42               | 38.03    |
| 7000            | 0.76                | 32.18               | 31.35    |
| 8000            | 0.82                | 39.52               | 44.77    |
| 9000            | 0.88                | 33.36               | 34.69    |
| 10000           | 0.94                | 28.01               | 28.26    |
| 12000           | 1.04                | 34.48               | 36.11    |
| 13000           | 1.09                | 33.69               | 32.75    |
| 15000           | 1.19                | 35.29               | 33.88    |
| 18000           | 1.34                | 31.14               | 36.40    |



### 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/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)



[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. OR  
M166889  
141-24SBSM+  
WP/CP  
180427