



Coaxial Cable

141-4SBSM+

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: KQ1688-4

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+ 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 | 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"> • 546W at 0.5 GHz • 90W 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 | 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"> • 211W at 0.5 GHz • 35W at 18 GHz | 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.
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Coaxial Cable

50Ω 4 inch DC to 18 GHz

141-4SBSM+

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, 0.25 dB at 18 GHz
- Excellent Return Loss, 30 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 standard¹
- **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



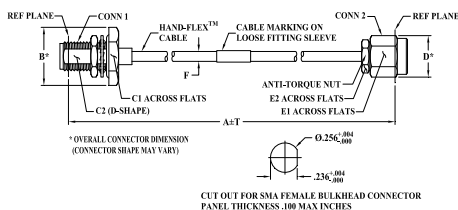
CASE STYLE: KQ1688-4

| Connectors | Model |
|--------------------------------|------------|
| SMA-Female Bulkhead / SMA-Male | 141-4SBSM+ |

+RoHS Compliant

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

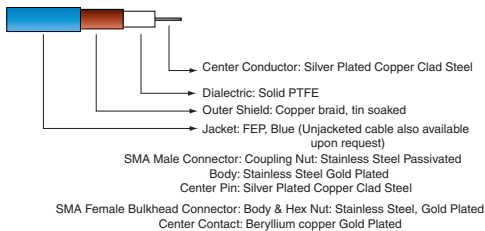
Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C1 | C2 | D |
|--------|-------|-----------|------|-------|
| 4.0 | .51 | .438 | .232 | .36 |
| 101.60 | 12.95 | 11.13 | 5.89 | 9.14 |
| E1 | E2 | F | T | wt |
| .313 | .250 | .163±.004 | .05 | grams |
| 7.95 | 6.35 | 4.14 | 1.27 | 10.17 |

Cable Construction



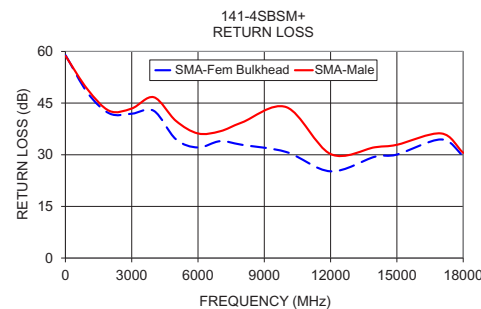
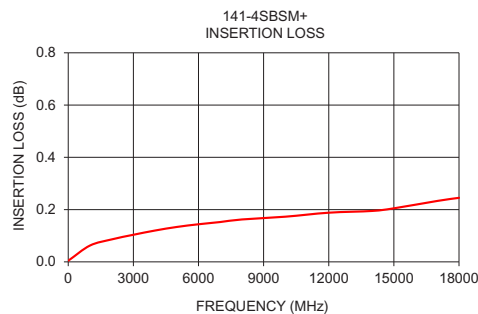
Electrical Specifications at 25°C

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range | | DC | | 18 | GHz |
| Length ² | | | 4 | | inches |
| Insertion Loss | DC - 2 | — | 0.05 | 0.20 | dB |
| | 2 - 6 | — | 0.11 | 0.40 | |
| | 6 - 10 | — | 0.16 | 0.50 | |
| | 10 - 18 | — | 0.21 | 0.70 | |
| Return Loss | DC - 2 | 23 | 42 | — | dB |
| | 2 - 6 | 23 | 40 | — | |
| | 6 - 10 | 17 | 39 | — | |
| | 10 - 18 | 17 | 32 | — | |

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 | 0.00 | 58.89 | 58.65 |
| 1000 | 0.06 | 48.00 | 49.00 |
| 2000 | 0.09 | 41.97 | 42.70 |
| 3000 | 0.10 | 41.92 | 43.43 |
| 4000 | 0.12 | 42.75 | 46.70 |
| 5000 | 0.13 | 34.50 | 39.83 |
| 6000 | 0.14 | 32.10 | 36.18 |
| 7000 | 0.15 | 33.93 | 36.82 |
| 8000 | 0.16 | 32.87 | 39.40 |
| 10000 | 0.17 | 30.78 | 43.81 |
| 12000 | 0.19 | 25.18 | 30.20 |
| 14000 | 0.19 | 29.41 | 32.17 |
| 15000 | 0.20 | 30.05 | 32.89 |
| 17000 | 0.23 | 34.43 | 36.19 |
| 18000 | 0.25 | 29.68 | 30.56 |



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