



Coaxial Cable

141 SMNB Model Series

50Ω DC to 12.5 GHz



CASE STYLE: KQ1669-XX

XX= cable length in inches

The Big Deal

- N-Type (F) Bulkhead Connector to SMA (M)
- Hand Formable
- Tight Bend-Radius (8mm min.)
- Ideal for interconnect of assembled systems

Product Overview

141-SMNB-series Hand-Flex coaxial cables are ideal for integrating rack-mounted coaxial components and sub-assemblies in tight spaces and dense system configurations. N-Type female bulkhead connector at one end is equipped with a nickel-plated brass flange for secure connections to rack mounted equipment. SMA-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-SMNB-series Hand-Flex coaxial cables are available in various lengths for different system requirements.

Key Features

| Feature | Advantages |
|---|---|
| Single N-Type female bulkhead connector | Eliminates need for a bulkhead adapter and connects directly to the front panel of rack-mounted equipment, improving reliability and reducing system cost. |
| Hand-formable | 141-SMNB-series Hand Flex cables avoid the need for cable-bending tools, alleviating the risk of damage during bending processes typical of semi-rigid cable assemblies. |
| 8mm bend radius | Ideal for making connections in tight spaces and dense system assemblies. |
| Excellent return loss | Typical return loss of 21 dB to 12.5 GHz or better makes 141-SMNB series cables ideal for connecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors. |
| Good power handling capability <ul style="list-style-type: none">• 546W at 0.5 GHz• 110W at 12.5 GHz | 141-SMNB 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 | Anti-torque feature supports the SMA connector body during installation, preventing stress to the connector/cable interface. Connector interface meets MIL-STD-348. |

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



Coaxial Cable

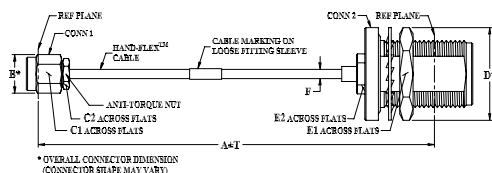
50Ω 8 inch DC to 12.5 GHz

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 110W at 12.5 GHz |

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

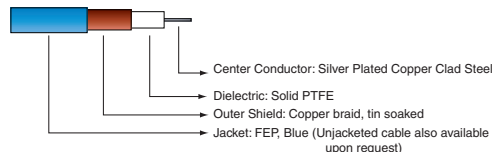
Outline Drawing



Outline Dimensions (inch mm)

| A | B | C1 | C2 | D |
|--------|-------|-----------|------|-------|
| 8.0 | .36 | .313 | .250 | .87 |
| 203.20 | 9.14 | 7.95 | 6.35 | 22.10 |
| E1 | E2 | F | T | wt |
| .750 | .531 | .163±.004 | .10 | grams |
| 19.05 | 13.49 | 4.14±0.10 | 2.54 | 50.44 |

Cable Construction



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

N-Female
Washer, Nut & Body: Brass Nickel Plated.
Center Pin: BeCuB, Gold Plated

Features

- Bulkhead Female Type-N connector at one end
- Low Loss, 0.3 dB at 12.5 GHz
- Excellent Return Loss, 21 dB at 12.5 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
- **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

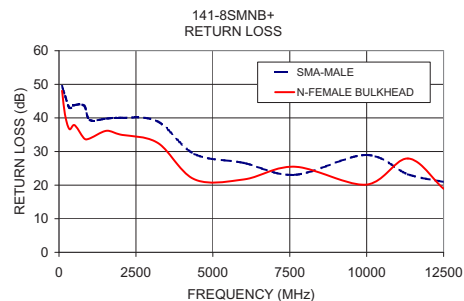
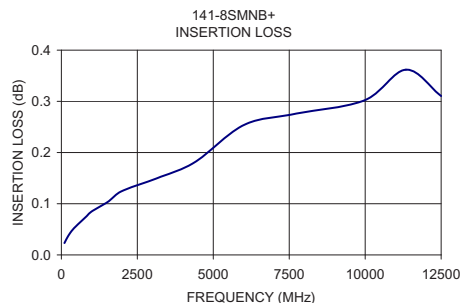
Electrical Specifications at 25°C

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|---------------------------|-----------------|------|------|------|--------|
| Frequency Range | | DC | | 12.5 | GHz |
| Length¹ | | | 8 | | inches |
| Insertion Loss | DC - 2 | — | 0.13 | 0.30 | dB |
| | 2 - 6 | — | 0.26 | 0.60 | |
| | 6 - 10 | — | 0.31 | 0.75 | |
| | 10 - 12.5 | — | 0.32 | 0.95 | |
| Return Loss | DC - 2 | 22.0 | 32.0 | — | dB |
| | 2 - 6 | 17.0 | 19.0 | — | |
| | 6 - 10 | 17.0 | 18.0 | — | |
| | 10 - 12.5 | 17.0 | 19.0 | — | |

1. Custom sizes available, consult factory.

Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | |
|-----------------|---------------------|------------------|-------------------|
| | | SMA-Male | N-Female Bulkhead |
| 100 | 0.02 | 49.5 | 48.1 |
| 200 | 0.03 | 46.5 | 40.7 |
| 340 | 0.05 | 43.0 | 36.7 |
| 510 | 0.06 | 43.8 | 37.8 |
| 820 | 0.07 | 43.6 | 33.9 |
| 1000 | 0.09 | 39.4 | 33.9 |
| 1540 | 0.10 | 39.8 | 36.2 |
| 2000 | 0.12 | 40.1 | 35.0 |
| 3200 | 0.15 | 39.0 | 32.6 |
| 4400 | 0.18 | 29.3 | 21.7 |
| 6000 | 0.25 | 26.6 | 21.7 |
| 7670 | 0.28 | 23.1 | 25.5 |
| 9970 | 0.30 | 29.0 | 20.1 |
| 11340 | 0.36 | 23.2 | 27.9 |
| 12500 | 0.31 | 20.9 | 18.9 |



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141-8SMNB+



CASE STYLE: KQ1669-8

| Connectors | Model |
|----------------------------|------------|
| Conn1 Conn2 | |
| SMA-Male N-Female Bulkhead | 141-8SMNB+ |

+RoHS Compliant

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

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