



# Coaxial Cable

## 141 Model Series

50Ω DC to 18 GHz



CASE STYLE: KQ1506-XX

XX= cable length in inches

### The Big Deal

- Hand Formable
- Tight Bend Radius
- Excellent Return Loss and Insertion Loss

### Product Overview

The 141 Series Hand-Flex Coaxial Cables are ideal for interconnection of coaxial components or sub-systems. 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. Connectors have passivated stainless-steel coupling nut over a gold plated connector body.

### 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. |
| Tight Bend Radius  | 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  | Supporting typical return loss of 30 dB to 6 GHz and 21 dB to 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: <ul style="list-style-type: none"> <li>• 546W at 0.5 GHz</li> <li>• 90W at 18 GHz</li> </ul> | Mini-Circuits 141 Cable series can support medium to high RF power levels enabling these cables to be used in the transmit path. NOTE: power rating is at sea-level altitudes.   |
| Built in Anti-torque nut   | Mini-Circuits 141 Series Hand Flex cables include an anti-torque feature to support the connector body during installation alleviating risk of stress to the connector/cable interface.  |
| Jacketed and Unjacketed options  | Standard 141 Series cables include a blue FEP insulator jacket reducing the risk of accidental shorting of DC power lines or active pins during installation and operation. Un-jacketed versions are available upon request.   |



For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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# Coaxial Cable

50Ω 24 inch DC to 18 GHz

## 141-24SM+

### 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, 2.2 dB at 18 GHz
- Excellent Return Loss, 24 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>
- Connector interface, meets MIL-STD-348

### Applications

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



CASE STYLE: KQ1506-24

| Connectors | Model     | Price       | Qty.  |
|------------|-----------|-------------|-------|
| SMA-Male   | 141-24SM+ | \$11.70 ea. | (1-9) |

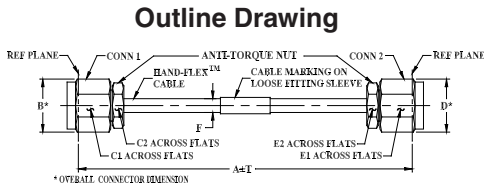
**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Electrical Specifications at 25°C

| MODEL <sup>1</sup> NO. | FREQ. (GHz) | LENGTH <sup>2</sup> (inch) | INSERTION LOSS (dB) |           |            |             | RETURN LOSS (dB) |           |            |             |    |    |    |    |    |    |    |    |
|------------------------|-------------|----------------------------|---------------------|-----------|------------|-------------|------------------|-----------|------------|-------------|----|----|----|----|----|----|----|----|
|                        |             |                            | DC - 2 GHz          | 2 - 6 GHz | 6 - 10 GHz | 10 - 18 GHz | DC - 2 GHz       | 2 - 6 GHz | 6 - 10 GHz | 10 - 18 GHz |    |    |    |    |    |    |    |    |
|                        |             |                            | Typ. Max.           | Typ. Max. | Typ. Max.  | Typ. Max.   | Typ. Min.        | Typ. Min. | Typ. Min.  | Typ. Min.   |    |    |    |    |    |    |    |    |
| 141-24SM+              | DC-18       | 24                         | 0.21                | 0.48      | 0.45       | 0.90        | 0.77             | 1.23      | 1.12       | 1.75        | 47 | 23 | 43 | 23 | 37 | 17 | 33 | 17 |

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



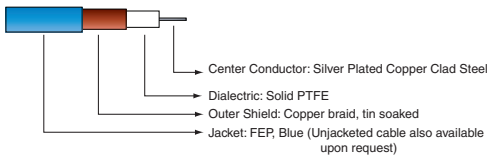
### Outline Dimensions (inch/mm)

| A      | B    | C1   | C2   | D     |
|--------|------|------|------|-------|
| 24.0   | .36  | .313 | .250 | .36   |
| 609.60 | 9.14 | 7.95 | 6.35 | 9.14  |
| E1     | E2   | F    | T    | wt    |
| .313   | .250 | .163 | .15  | grams |
| 7.95   | 6.35 | 4.14 | 3.81 | 32.03 |

### Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) |          |
|-----------------|---------------------|------------------|----------|
|                 |                     | SMA-MALE         | SMA-MALE |
| 10.0            | 0.03                | 38.79            | 38.22    |
| 1000.0          | 0.24                | 38.10            | 37.09    |
| 2000.0          | 0.35                | 39.24            | 40.48    |
| 2500.0          | 0.40                | 40.54            | 41.08    |
| 4000.0          | 0.54                | 43.40            | 37.55    |
| 5000.0          | 0.61                | 33.66            | 37.53    |
| 6000.0          | 0.69                | 36.30            | 43.98    |
| 7000.0          | 0.75                | 39.38            | 33.89    |
| 8000.0          | 0.83                | 31.38            | 30.44    |
| 9000.0          | 0.88                | 34.79            | 35.60    |
| 10000.0         | 0.94                | 32.19            | 33.63    |
| 12000.0         | 1.06                | 28.76            | 32.82    |
| 13000.0         | 1.11                | 35.81            | 32.20    |
| 15000.0         | 1.23                | 35.46            | 38.48    |
| 18000.0         | 1.36                | 36.47            | 38.46    |

### Cable Construction

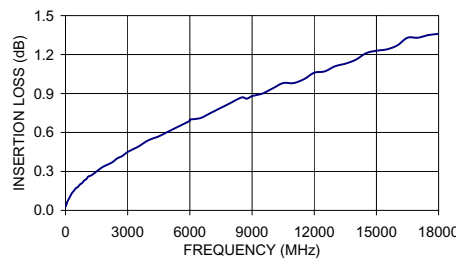


Connectors: Coupling Nut: Stainless Steel Passivated  
 Body: Stainless Steel Gold Plated  
 Center Pin: Silver Plated Copper Clad Steel

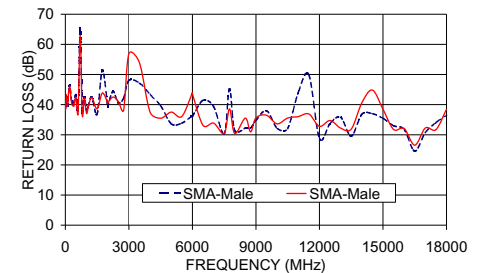
### Typical Bending Capability



141-24SM+ INSERTION LOSS



141-24SM+ RETURN LOSS



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