



SMA Female Connector Crimp/Solder Attachment for RG174,  
RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100

## RF Connectors Technical Data Sheet

PE4414

### Configuration

- SMA Female Connector
- MIL-STD-348
- 50 Ohms
- Straight Body Geometry
- RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100 Interface Type
- Crimp/Solder Attachment

### Features

- Max. Operating Frequency 18 GHz
- Gold Plated Beryllium Copper Contact
- Contact plating according to ASTM-B488

### Applications

- General Purpose Test
- Custom Cable Assemblies

### Description

Pasternack's PE4414 SMA female connector with crimp/solder attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100 and LMR-100 is part of our full line of RF components available for same-day shipping. Our SMA female connector operates up to a maximum frequency of 18 GHz.

Our SMA female connector PE4414 datasheet specifications and drawing with dimensions are shown below in this PDF. Pasternack's broad catalog of RF, microwave and millimeter wave connectors allows designers to configure and customize their signal connections however they like. Whether the need is to provide an I/O for a board design, or simply create a custom cable assembly configuration, Pasternack has the right connector for the job. Pasternack can also expertly build your custom cable assemblies for you and ship same-day.

### Electrical Specifications

| Description                          | Minimum | Typical | Maximum | Units |
|--------------------------------------|---------|---------|---------|-------|
| Frequency Range                      | DC      |         | 18      | GHz   |
| Operating Voltage (AC)               |         |         | 250     | Vrms  |
| Dielectric Withstanding Voltage (AC) |         |         | 750     | Vrms  |

### Mechanical Specifications

#### Size

|               |                    |
|---------------|--------------------|
| Length        | 0.81 in [20.57 mm] |
| Width/Dia.    | 0.312 in [7.92 mm] |
| Weight        | 0.007 lbs [3.18 g] |
| Mating Cycles | 100 Cycles         |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SMA Female Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100 PE4414](#)



SMA Female Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100

## RF Connectors Technical Data Sheet

PE4414

### Material Specifications

| Description | Material         | Plating             |
|-------------|------------------|---------------------|
| Contact     | Beryllium Copper | Gold<br>ASTM-B488   |
| Insulation  | PTFE             |                     |
| Body        | Brass            | Nickel<br>ASTM-B689 |

### Environmental Specifications

#### Temperature

Operating Range

-65 to +165 deg C

**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

SMA Female Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100 from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

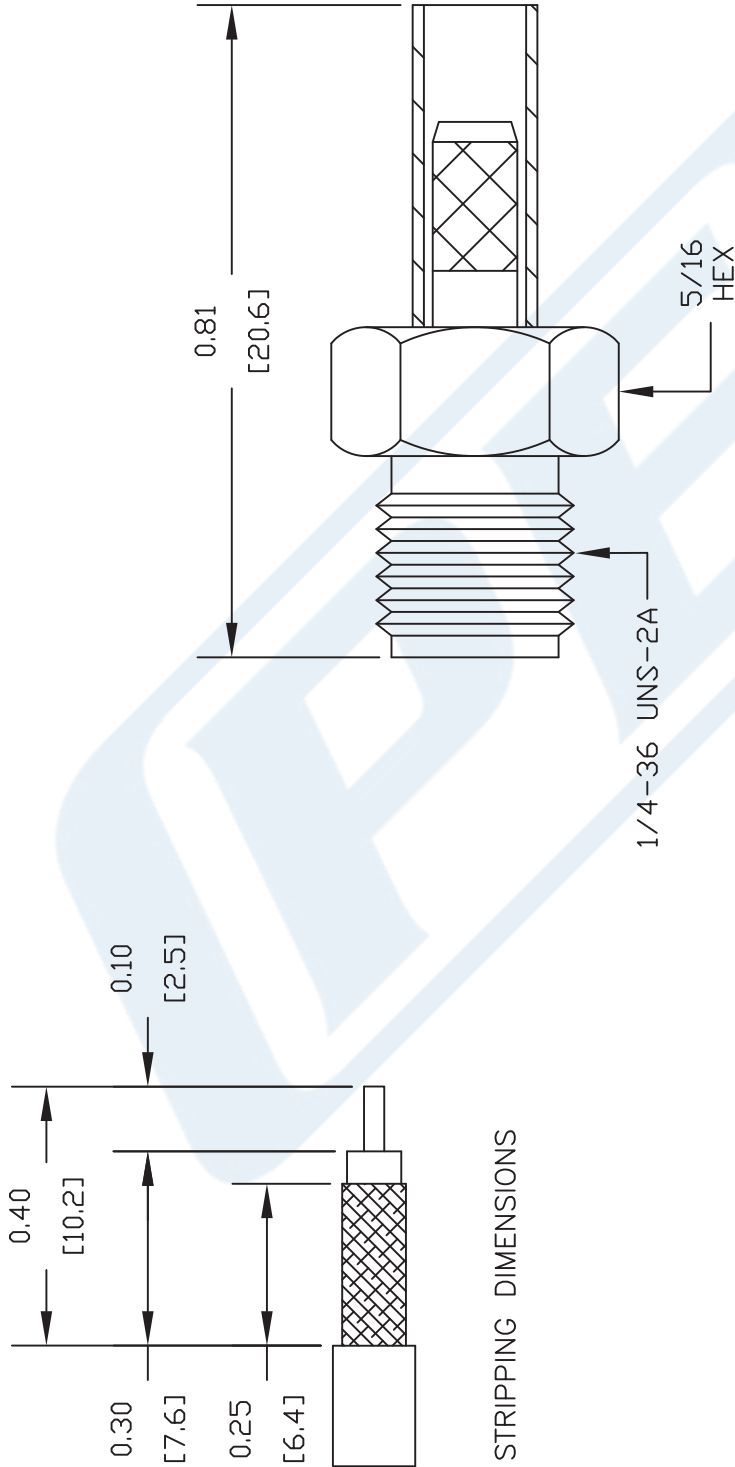
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URL: <https://www.pasternack.com/sma-female-standard-rg316-rg174-rg188-connector-pe4414-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE4414 CAD Drawing

SMA Female Connector Crimp/Solder Attachment for RG174,  
RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100



STRIPPING DIMENSIONS

CRIMP SIZE REQUIRED

CONTACT: SOLDER  
FERRULE: .128" HEX CRIMP TOOL

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].  
4. FITS MIL-C-17 AND EQUIVALENT CABLES.

DWG TITLE  
**PE4414**

**PE PASTERNAK®**  
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REV. - FSCM NO. 53919

CAD FILE 052803

SCALE N/A

SIZE A

127



## SMP Female Right Angle Push-On Connector Crimp/ Solder Attachment for RG316, RG174, LMR-100

### RF Connectors Technical Data Sheet

**PE45128**

#### Configuration

- Push-On SMP Female Connector
- MIL-STD-348A
- 50 Ohms
- Right Angle Body Geometry
- RG316, RG174, LMR-100 Interface Type
- Crimp/Solder Attachment

#### Electrical Specifications

| Description            | Minimum | Typical | Maximum | Units |
|------------------------|---------|---------|---------|-------|
| Frequency Range        | DC      |         | 3       | GHz   |
| VSWR                   |         |         | 1.3:1   |       |
| Operating Voltage (AC) |         |         | 350     | Vrms  |

#### Mechanical Specifications

##### Size

|            |                      |
|------------|----------------------|
| Length     | 0.295 in [7.49 mm]   |
| Width/Dia. | 0.157 in [3.99 mm]   |
| Height     | 0.311 in [7.9 mm]    |
| Weight     | 0.00736 lbs [3.34 g] |

#### Material Specifications

| Description     | Material         | Plating                 |
|-----------------|------------------|-------------------------|
| Contact         | Beryllium Copper | Gold<br>30μ in. minimum |
| Insulation      | Teflon           |                         |
| Outer Conductor | Beryllium Copper | Gold<br>3μ in. minimum  |
| Body            | Brass            | Gold<br>3μ in. minimum  |

#### Environmental Specifications

##### Temperature

|                 |                  |
|-----------------|------------------|
| Operating Range | -65 to 165 deg C |
|-----------------|------------------|

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SMP Female Right Angle Push-On Connector Crimp/Solder Attachment for RG316, RG174, LMR-100 PE45128](#)



## SMP Female Right Angle Push-On Connector Crimp/ Solder Attachment for RG316, RG174, LMR-100

### RF Connectors Technical Data Sheet

PE45128

**Compliance Certifications** (see [product page](#) for current document)

#### Plotted and Other Data

Notes:

SMP Female Right Angle Push-On Connector Crimp/Solder Attachment for RG316, RG174, LMR-100 from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

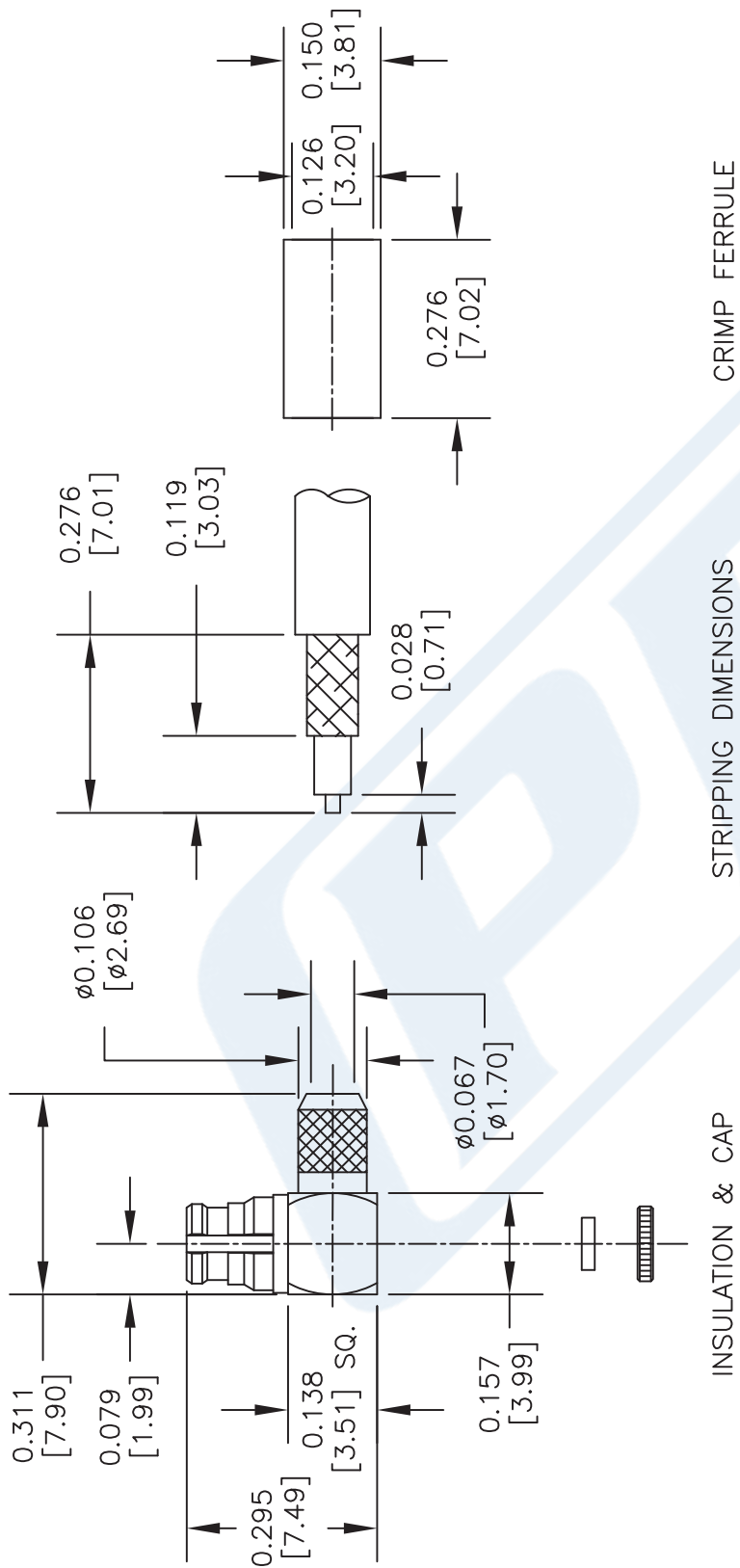
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [SMP Female Right Angle Push-On Connector Crimp/Solder Attachment for RG316, RG174, LMR-100 PE45128](#)

URL: <https://www.pasternack.com/smp-female-push-on-rg316-rg174-lmr-100-connector-pe45128-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

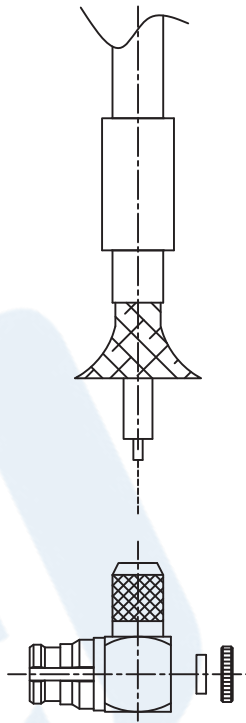
# PE45128 CAD Drawing

SMP Female Right Angle Push-On Connector Crimp/  
Solder Attachment for RG316, RG174, LMR-100



## ASSEMBLY PROCEDURES

1. STRIP THE CABLE TO THE DIMENSIONS SHOWN, DO NOT NICK CENTER CONDUCTOR OR BRAID.
2. SLIDE FERRULE ONTO THE CABLE.
3. FLARE THE BRAID, INSERT THE CONTACT AND SOLDER TO INTERNAL CONTACT.
4. SLIDE FERRULE OVER BRAID AND CRIMP WITH .130" [3.3] HEX. CRIMP TOOL.
5. INSERT THE INSULATION AND THE CAP.



DWG TITLE

**PE45128**

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2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

**PE PASTERNAK**  
THE ENGINEER'S RF SOURCE

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FSCM NO. 53919

CAD FILE 021015

SCALE N/A

SIZE A

200



# LMR®-100A Flexible Low Loss Communications Coax

## Ideal for...

- Drop-in Replacement for RG-316/RG-174 (uses standard connectors)
- Jumper Assemblies in Wireless Communications Systems
- Short Antenna Feeder runs
- Any application (e.g. WLL, GPS, LMR, WLAN, WISP, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable

• **LMR®-PVC** is designed for low loss general-purpose indoor/outdoor applications and is somewhat more flexible than the standard polyethylene jacketed LMR.

• **LMR®-PVC-W** is a white-jacketed version of LMR-PVC for marine and other indoor/outdoor applications where color compatibility is desired.

• **Flexibility** and bendability are hallmarks of the LMR-100A cable design. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.

• **Low Loss** is another hallmark feature of LMR-100A. Size for size LMR has the lowest loss of any flexible cable and comparable loss to semirigid hard-line cables.

• **RF Shielding** is 50 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor is rated conservatively at > 90 dB (i.e. >180 dB between two adjacent cables).

• **Weatherability:** LMR-100A cables designed for outdoor exposure incorporate the best materials for UV resistance and have life expectancy in excess of 20 years.

• **Connectors:** A wide variety of connectors are available for LMR-100A cable, including all common interface types, reverse polarity, and a choice of solder or non-solder center pins. Most LMR connectors employ crimp outer attachment using standard hex crimp sizes.

• **Cable Assemblies:** All LMR-100A cable types are available as pre-terminated cable assemblies. Refer to the section on FlexTech for further details.

| Part Description |                          |        |       |       | Stock |
|------------------|--------------------------|--------|-------|-------|-------|
| Part Number      | Application              | Jacket | Color | Code  |       |
| LMR-100A-FR      | Indoor/Outdoor Riser CMR | FRPE   | Black | 54037 |       |
| LMR-100A-PVC     | Indoor/Outdoor           | PVC    | Black | 54119 |       |
| LMR-100A-PVC-W   | Indoor/Outdoor           | PVC    | White | 54200 |       |

PVC = Poly Vinyl Chloride; MTO = Made to Order



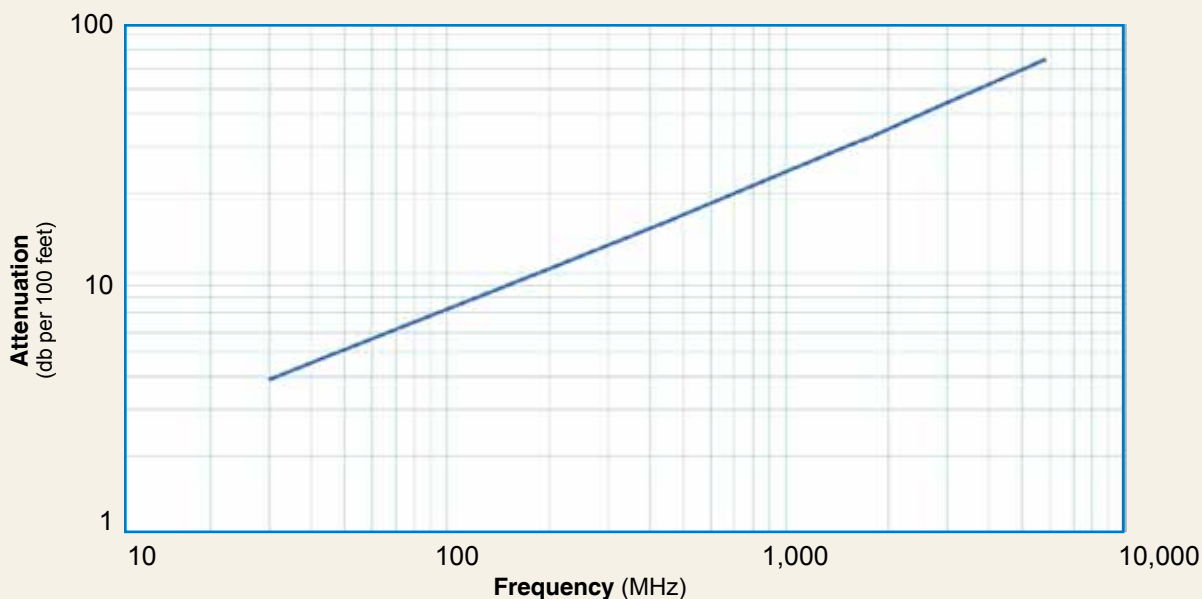
| Construction Specifications |                   |       |        |
|-----------------------------|-------------------|-------|--------|
| Description                 | Material          | In.   | (mm)   |
| Inner Conductor             | Solid BCCS        | 0.018 | (0.46) |
| Dielectric                  | Solid PE          | 0.060 | (1.52) |
| Outer Conductor             | Aluminum Tape     | 0.065 | (1.65) |
| Overall Braid               | Tinned Copper     | 0.083 | (2.11) |
| Jacket                      | (see table above) | 0.110 | (2.79) |

| Mechanical Specifications |                |        |          |
|---------------------------|----------------|--------|----------|
| Performance Property      | Units          | US     | (metric) |
| Bend Radius: installation | in. (mm)       | 0.25   | (6.4)    |
| Bend Radius: repeated     | in. (mm)       | 1      | (25.4)   |
| Bending Moment            | ft-lb (N-m)    | 0.1    | (0.014)  |
| Weight                    | lb/ft (kg/m)   | 0.0092 | (.014)   |
| Tensile Strength          | lb (kg)        | 15     | (6.8)    |
| Flat Plate Crush          | lb/in. (kg/mm) | 10     | (0.18)   |

| Environmental Specifications   |          |         |  |
|--------------------------------|----------|---------|--|
| Performance Property           | °F       | °C      |  |
| Installation Temperature Range | -40/+185 | -40/+85 |  |
| Storage Temperature Range      | -94/+185 | -70/+85 |  |
| Operating Temperature Range    | -40/+185 | -40/+85 |  |

| Electrical Specifications |                   |       |          |
|---------------------------|-------------------|-------|----------|
| Performance Property      | Units             | US    | (metric) |
| Velocity of Propagation   | %                 | 66    |          |
| Dielectric Constant       | NA                | 2.30  |          |
| Time Delay                | nS/ft (nS/m)      | 1.54  | (5.05)   |
| Impedance                 | ohms              | 50    |          |
| Capacitance               | pF/ft (pF/m)      | 30.8  | (101.1)  |
| Inductance                | uH/ft (uH/m)      | 0.077 | (0.25)   |
| Shielding Effectiveness   | dB                | >90   |          |
| DC Resistance             |                   |       |          |
| Inner Conductor           | ohms/1000ft (/km) | 81.0  | (266)    |
| Outer Conductor           | ohms/1000ft (/km) | 9.5   | (31.2)   |
| Voltage Withstand         | Volts DC          | 500   |          |
| Jacket Spark              | Volts RMS         | 2000  |          |
| Peak Power                | kW                | 0.6   |          |

### Attenuation vs. Frequency (typical)



| Frequency (MHz)              | 30    | 50    | 150   | 220   | 450   | 900   | 1500  | 1800  | 2000  | 2500  | 5800  |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Attenuation dB/100 ft</b> | 3.9   | 5.1   | 8.9   | 10.9  | 15.8  | 22.8  | 30.1  | 33.2  | 35.2  | 39.8  | 64.1  |
| <b>Attenuation dB/100 m</b>  | 12.9  | 16.7  | 29.4  | 35.8  | 51.9  | 74.9  | 98.7  | 109.0 | 115.5 | 130.6 | 210.3 |
| <b>Avg. Power kW</b>         | 0.230 | 0.180 | 0.100 | 0.083 | 0.057 | 0.039 | 0.029 | 0.027 | 0.025 | 0.022 | 0.013 |

**Calculate Attenuation** =  $(0.709140) \cdot \sqrt{\text{FMHz}} + (0.001740) \cdot \text{FMHz}$  (interactive calculator available at <http://www.timesmicrowave/telecom>)  
**Attenuation:** VSWR=1.0 ; Ambient = +25°C (77°F) **Power:** VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F);  
 Sea Level; dry air; atmospheric pressure; no solar loading



## Connectors

| Interface | Description   | Part Number | Stock Code | VSWR **<br>Freq. (GHz) | Coupling<br>Nut | Inner<br>Contact<br>Attach | Outer<br>Contact<br>Attach | Finish*<br>Body /Pin | Length<br>in | Width<br>in (mm) | Weight<br>lb (g) |
|-----------|---------------|-------------|------------|------------------------|-----------------|----------------------------|----------------------------|----------------------|--------------|------------------|------------------|
| SMA male  | Straight Plug | TC-100-SM   | 3190-1551  | <1.25:1 (<3)           | Hex             | Solder                     | Crimp                      | SS/G                 | 1.0 (25.4)   | 0.32 (8.1)       | 0.015 (6.8)      |
| TNC male  | Straight Plug | TC-100-TM   | 3190-1552  | <1.25:1 (<3)           | Knurl           | Solder                     | Crimp                      | S/G                  | 1.4 (35.6)   | 0.59 (15.0)      | 0.045 (20.4)     |

\* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alballoy \*\*VSWR spec based on 3 foot cable with a connector pair



## Install Tools

| Type              | Part Number        | Stock Code | Description                                         |
|-------------------|--------------------|------------|-----------------------------------------------------|
| Crimp Tool        | CT-240/200/195/100 | 3190-667   | Crimp tool for LMR-100, 195, 200 and 240 connectors |
| Cutting Tool      | CCT-01             | 3190-1544  | Cable end flush cut tool                            |
| Replacement Blade | RB-01              | 3190-1609  | Replacement blade for cutting tool                  |

