PASTERNACK®
THE ENGINEER'S RF SOURCE

# 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

Pasternack Enterprises, Inc. • P.O. Box 16759, Irvine, CA 92623
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# SMP Female Right Angle Push-On Connector Crimp/ Solder Attachment for RG316, RG174, LMR-100



**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.

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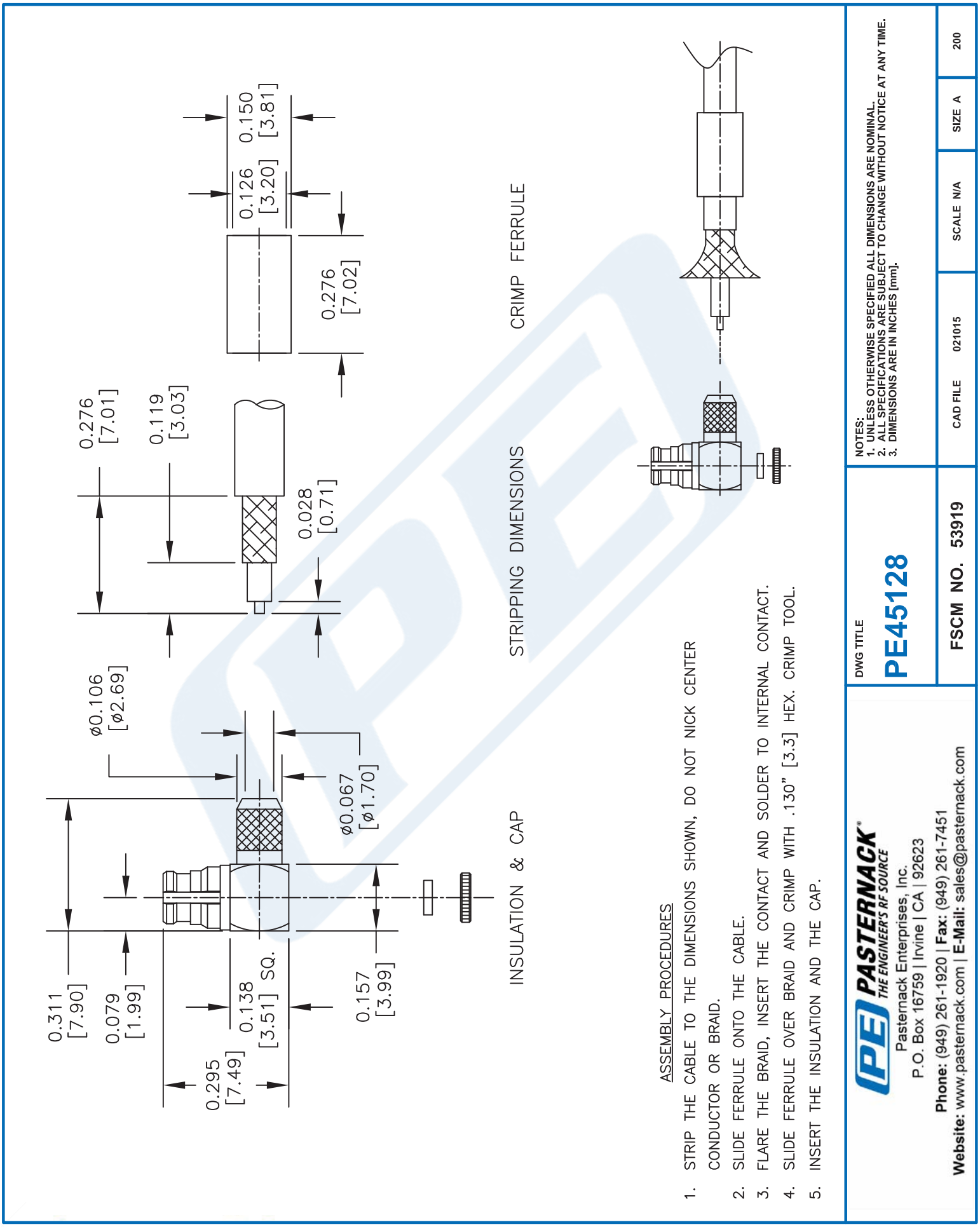
# PE45128 CAD Drawing

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

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PASTERNACK®
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# MMBX Plug Snap-On Connector Crimp/Solder Attachment for RG316, RG174, With Male Center Contact

## RF Connectors Technical Data Sheet PE45251

## Configuration

- Snap-On MMBX Plug Connector
- 50 Ohms
- Straight Body Geometry
- RG316, RG174 Interface Type
- Crimp/Solder Attachment

## Features

- Max. Operating Frequency 3 GHz
- Excellent VSWR of 1.11:1
- Gold Plated Beryllium Copper Contact
- Reliable Snap-On connection method
- Small circuit footprint for high density applications
- Mechanical misalignment tolerance of 4.5°/0.7mm Max

## Applications

- General Purpose Test
- Custom Cable Assemblies
- Low cost blind mate interconnect
- Multi circuit board radios
- Board to board applications requiring multiple coaxial connections

### Description

Pasternack's PE45251 MMBX plug snap-on connector crimp/solder attachment for RG316 and RG174 is part of our full line of RF components available for same-day shipping. Our MMBX plug connector operates up to a maximum frequency of 3 GHz and offers excellent VSWR of 1.11:1.

Our MMBX plug connector PE45251 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 connector assemblies for you and ship same-day.

### Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Frequency Range | DC | | 3 | GHz |
| VSWR | | | 1.11:1 | |
| Insertion Loss | | | 0.2 | dB |
| Operating Voltage (DC) | | | 250 | Vdc |
| Dielectric Withstanding Voltage (DC) | | | 750 | Vdc |
| Insulation Resistance | 1,000 | | | MOhms |

Electrical Specification Notes:
MMBX Plug has a male center contact

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: MMBX Plug Snap-On Connector Crimp/Solder Attachment for RG316, RG174, With Male Center Contact PE45251

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# MMBX Plug Snap-On Connector Crimp/Solder Attachment for RG316, RG174, With Male Center Contact



## Mechanical Specifications

**Size**

| | |
|---|---|
| Length | 0.57 in [14.48 mm] |
| Width/Dia. | 0.185 in [4.70 mm] |
| Weight | 0.00662 lbs [3 g] |
| Mating Cycles | 100 Cycles |

**Material Specifications**

| Description | Material | Plating |
|---|---|---|
| Contact | Beryllium Copper | Gold |
| Insulation | PTFE | |
| Outer Conductor | Brass | Gold |
| Body | Brass | Gold |

## Environmental Specifications

**Temperature**

| | |
|---|---|
| Operating Range | -55 to 155 deg C |

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: MMBX Plug Snap-On Connector Crimp/Solder Attachment for RG316, RG174, With Male Center Contact PE45251

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# MMBX Plug Snap-On Connector Crimp/Solder Attachment for RG316, RG174, With Male Center Contact



**Compliance Certifications** (see product page for current document)

**Plotted and Other Data**

Notes:

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Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: MMBX Plug Snap-On Connector Crimp/Solder Attachment for RG316, RG174, With Male Center Contact PE45251

URL: https://www.pasternack.com/mmbx-plug-snap-on-rg316-rg174-connector-pe45251-p.aspx

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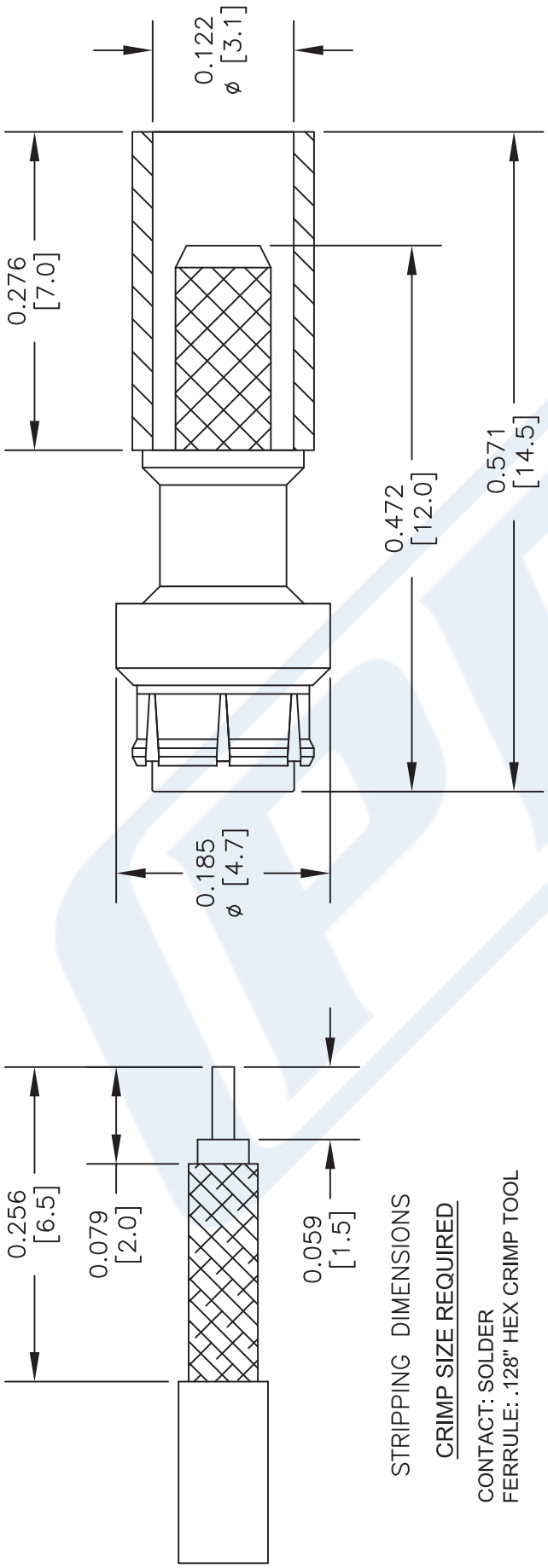
# PE45251 CAD Drawing

MMBX Plug Snap-On Connector Crimp/Solder Attachment
for RG316, RG174, With Male Center Contact




STRIPPING DIMENSIONS

CRIMP SIZE REQUIRED

CONTACT: SOLDER
FERRULE: .128" HEX CRIMP TOOL

| STANDARD TOLERANCES |
|---|
| .X ±0.2 |
| .XX ±0.1 |
| .XXX ±0.05 |

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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
PE45251

CAD FILE 092816 | SCALE N/A | SIZE A | 2233

FSCM NO. 53919

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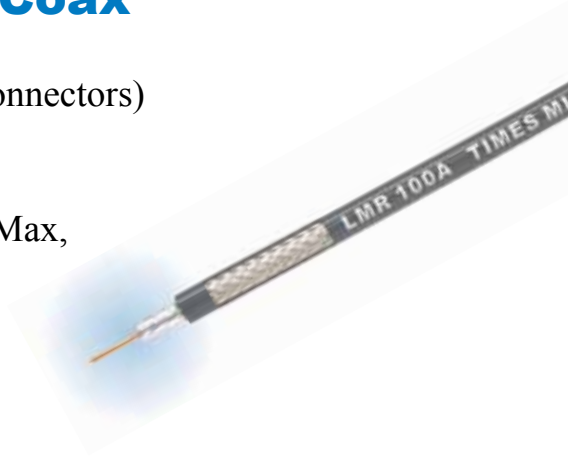
TIMES MICROWAVE SYSTEMS

# 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.

**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**

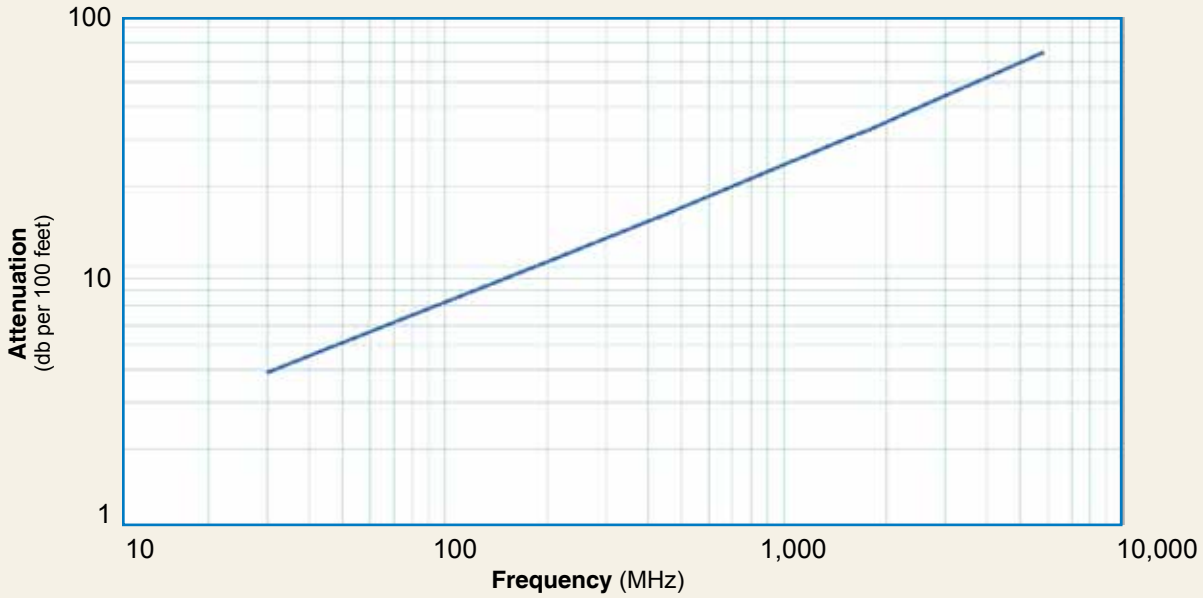
| Performance Property | Units | US | (metric) |
|---|---|---|---|
| Velocity of Propagation | % | 66 | |
| Dielectric Constant | NA | 2.30 | |
| Time Delay | nS/ft (nS/m) | 1.54 | (5.05) |
| Impedance | ohms | 50 | |
| Capacitance | pF/ft (pF/m) | 30.8 | (101.1) |
| Inductance | uH/ft (uH/m) | 0.077 | (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 | |

**Part Description**

| Part Number | Application | Jacket | Color | Stock 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 |

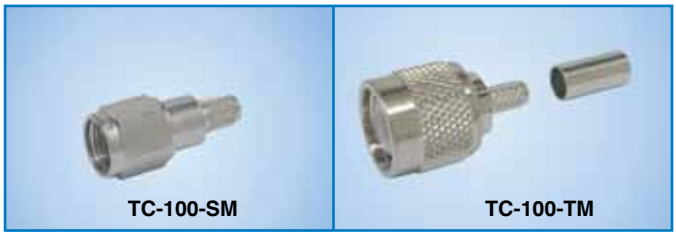
PVC = Poly Vinyl Chloride; MTO = Made to Order

## Attenuation vs. Frequency (typical)




| Frequency (MHz) | 30 | 50 | 150 | 220 | 450 | 900 | 1500 | 1800 | 2000 | 2500 | 5800 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Attenuation dB/100 ft** | 3.9 | 5.1 | 8.9 | 10.9 | 15.8 | 22.8 | 30.1 | 33.2 | 35.2 | 39.8 | 64.1 |
| **Attenuation dB/100 m** | 12.9 | 16.7 | 29.4 | 35.8 | 51.9 | 74.9 | 98.7 | 109.0 | 115.5 | 130.6 | 210.3 |
| **Avg. Power kW** | 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) • $\sqrt{\text{FMHz}}$ + (0.001740) • 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 ** Freq. | (GHz) | Coupling Nut | Inner Contact Attach | Outer Contact Attach | Finish* Body /Pin | Length in | (mm) | Width in | (mm) | Weight 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 |