



# 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 30µ in. minimum
Insulation	Teflon	
Outer Conductor	Beryllium Copper	Gold 3µ in. minimum
Body	Brass	Gold 3µ in. minimum

### Environmental Specifications

#### Temperature

Operating Range	-65 to 165 deg C
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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: [SMP Female Right Angle Push-On Connector Crimp/Solder Attachment for RG316, RG174, LMR-100 PE45128](#)



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**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**

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].

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

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FSCM NO. 53919

CAD FILE 021015

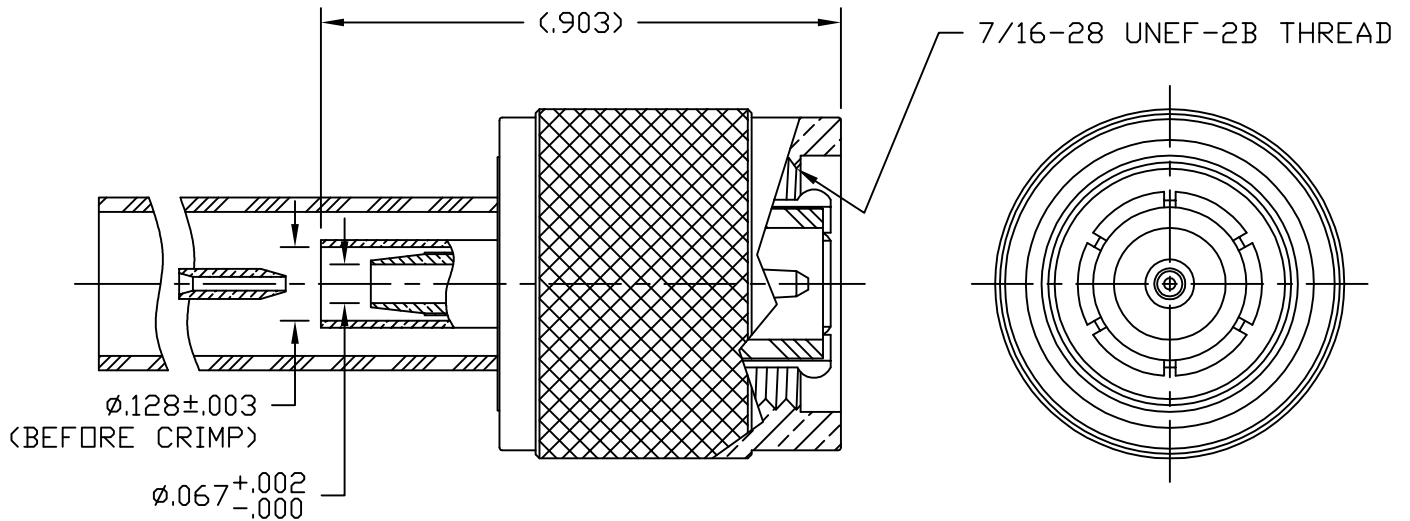
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SIZE A

200

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SYM	REVISION DESCRIPTION	DFTM	DATE	APPD	DATE
-	RELEASED FOR PRODUCTION	J. C. L.	8/20/03	J. C. L.	8/20/03
A	CHANGED PER CDC #36704	D. J. H.	1/14/13	J. D. B.	1/15/13



**NOTES:**

- ASSEMBLED CONNECTOR INTERFACE IS DESIGNED IN ACCORDANCE WITH MIL-STD-348.
- MATERIAL: BODY & NUT - BRASS PER ASTM B16.  
CONTACT FINGERS & CONTACTS - BERYLLIUM COPPER PER ASTM B196.  
INSULATOR - TEFLON PER ASTM D1710.  
CRIMP SLEEVE - D.H.P. COPPER CDA ALLOY 122.  
RETAINING RING - PHOSPHOR BRONZE PER QQ-B-750.  
GASKET - SILICONE RUBBER PER ZZ-R-765.  
SHRINK SLEEVE - SHRINKABLE POLYOLEFIN PER MIL-I-23053/5.
- FINISHES: RETAINING RING - NOT PLATED.  
CONTACTS - GOLD PLATE PER MIL-G-45204.  
ALL OTHER METAL PARTS - SILVER PLATE PER QQ-S-365.
- CONTACT PIN IS SOLDERED.
- CRIMP THE FERRULE TO .128" HEX.

MATERIAL:	UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES MACHINED SURFACES FINISH N/A RMS MAX. REMOVE ALL BURRS .005 MAX. BREAK MACHINE CORNERS .005 MAX. FILLET R. TOLERANCES ON DECIMALS . XX ± .03 . XXX ± .005 ANGLES ± 1° FRACTIONS ± 1/32	DFTM. J. C. L.	TIMES MICROWAVE SYSTEMS
		DATE 8/20/03	
USED ON: -		CHKD. J. C. L.	<b>TC-100-TM</b> TNC MALE FOR LMR100 CABLE
		DATE 8/20/03	
SCALE: N/A	DWG. SIZE A	APPD. J. C. L.	SHEET 1 of 1
		DO NOT SCALE DRAWING	
	CODE IDENT 68999	DATE 8/20/03	REV A

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

• **LMR<sup>®</sup>-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).

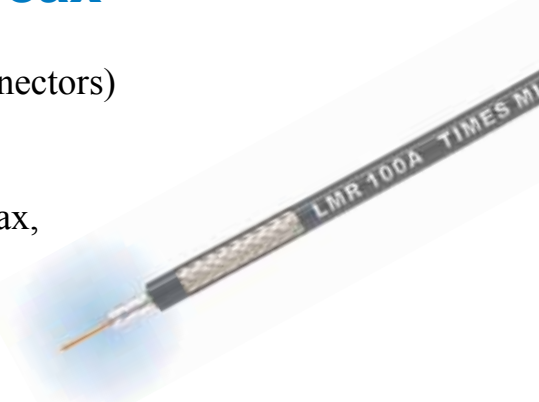
• **Weatherability:** LMR-100A cables designed for outdoor exposure incorporate the best materials for UV resistance and have life expectancy in excess of 20 years.

• **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 ** Freq. (GHz)	Coupling Nut	Inner Contact Attach	Outer Contact Attach	Finish* Body /Pin	Length in	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

