



TNC Female Bulkhead Mount Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100, IP67 Rated

## RF Connectors Technical Data Sheet

PE44899

### Configuration

- TNC 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
- Bulkhead

### Features

- Max. Operating Frequency 3 GHz
- Excellent VSWR of 1.25:1
- Gold Plated Phosphor Bronze Contact
- IP67 Rated (Unmated)

### Applications

- General Purpose Test
- Rack and Panel Mount Applications
- Custom Cable Assemblies

### Description

Pasternack's PE44899 TNC female bulkhead 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 TNC female connector operates up to a maximum frequency of 3 GHz and offers excellent VSWR of 1.25:1. This TNC bulkhead connector allows designers to create external connections on their product enclosures, and can be used in a variety of other rack mount and panel mount applications. The connector has an IP67 rating to protect against dust and temporary moisture protection under immersion conditions.

Our TNC female bulkhead connector PE44899 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		3	GHz
VSWR			1.25:1	

### Mechanical Specifications

#### Size

Length	1.36 in [34.54 mm]
Width/Dia.	0.68 in [17.27 mm]
Weight	0.04 lbs [18.14 g]

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [TNC Female Bulkhead Mount Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100, IP67 Rated PE44899](#)



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### Material Specifications

Description	Material	Plating
Contact	Phosphor Bronze	Gold
Insulation	PTFE	
Body	Brass	Nickel

### Environmental Specifications

#### Temperature

Operating Range

-65 to +165 deg C

Ingress Protection (IP) Rating

IP67 Rated (Unmated)

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

### Plotted and Other Data

Notes:

TNC Female Bulkhead Mount Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100, IP67 Rated 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.

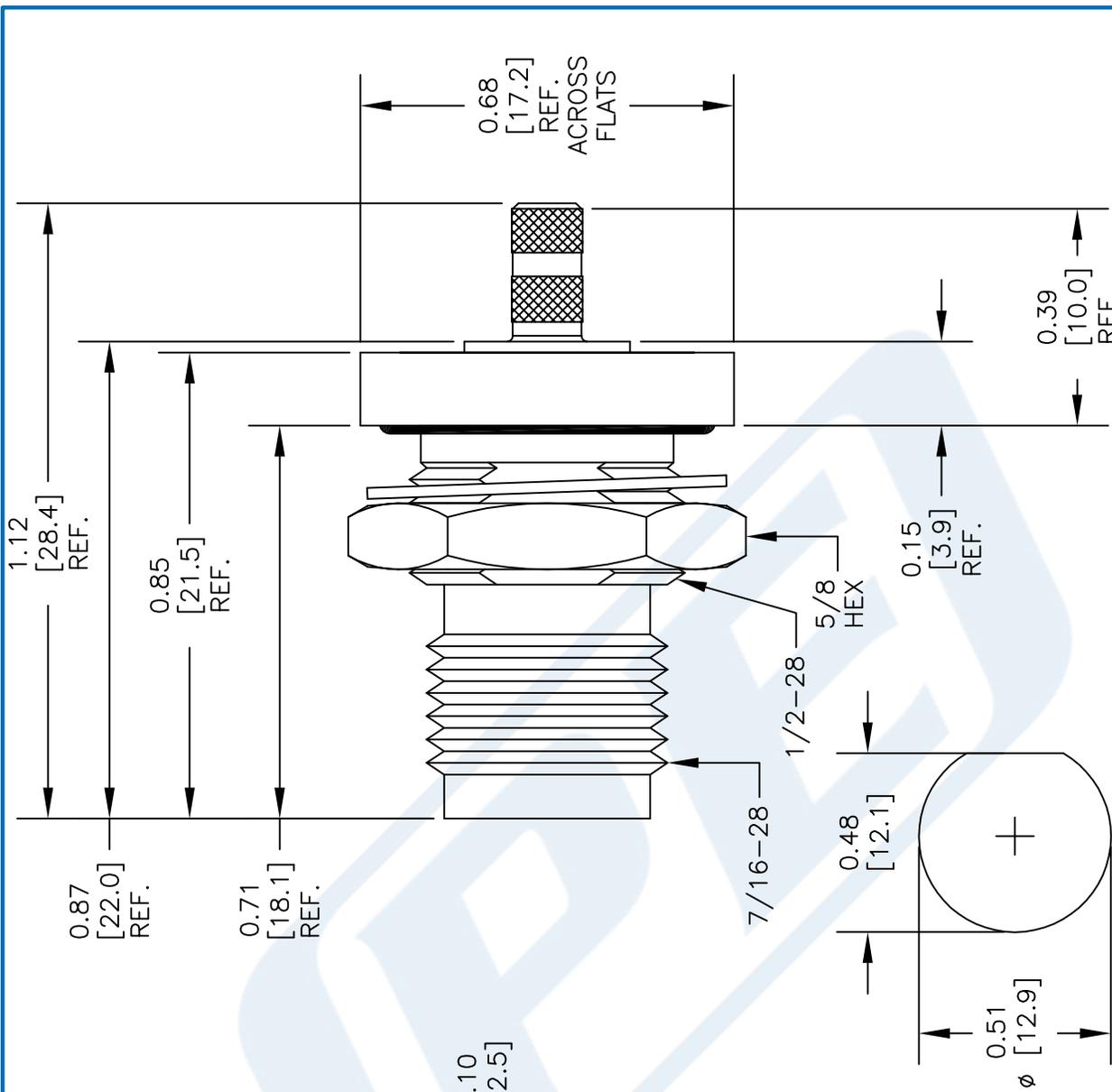
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [TNC Female Bulkhead Mount Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100, IP67 Rated PE44899](#)

URL: <https://www.pasternack.com/tnc-female-standard-rg316-u-rg174a-u-rg188-connector-pe44899-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.

# PE44899 CAD Drawing

TNC Female Bulkhead Mount Connector Crimp/Solder Attachment for RG174, RG316, RG188, 0.100 inch, PE-B100, PE-C100, LMR-100, IP67 Rated



**STRIPPING DIMENSIONS**

**ASSEMBLY PROCEDURES**

1. TRIM CABLE AS SHOWN
2. SLIDE CRIMP FERRULE ONTO CABLE
3. CRIMP OR SOLDER BULLET CONTACT TO THE CENTER CONDUCTOR; INSERT CABLE WITH BULLET CONTACT INTO REAR FERRULE BODY, SLIDING FOIL INTO THE BODY AND THE BRAID OVER THE BODY
4. CRIMP FERRULE

**CRIMP SIZE REQUIRED**

CONTACT: CRIMP OR SOLDER  
 FERRULE: .178" 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].

DWG TITLE	FSCM NO. 53919	CAD FILE	080714	SCALE	N/A	SIZE	A	150
<b>PE44899</b>								

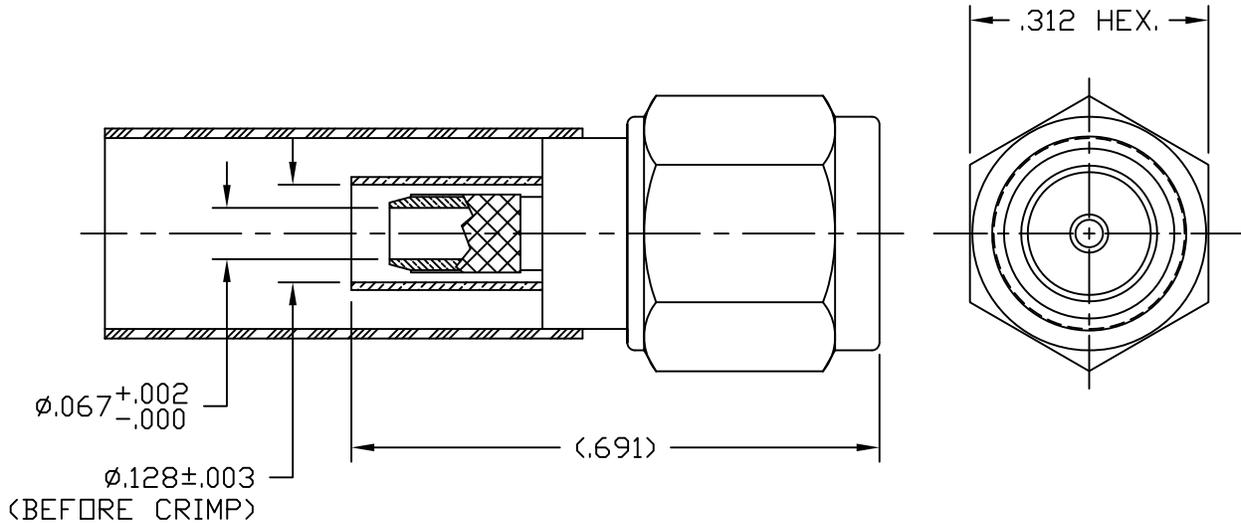
**PE PASTERNAK®**  
 THE ENGINEER'S RF SOURCE

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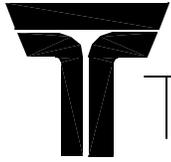
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-	RELEASED FOR PRODUCTION	J. C. L.	8/20/03	J. C. L.	8/20/03
A	CHANGED PER CDC #36704	D. J. H.	1/14/13	J. D. B.	1/15/13
B	CHANGED PER CDC #37206	J. D. B.	3/226/13	J. D. B.	3/26/13



**NOTES:**

- ASSEMBLED CONNECTOR INTERFACE IS DESIGNED IN ACCORDANCE WITH MIL-STD-348.
- MATERIAL: BODY & HEX COUPLING NUT- CORROSION RESISTANT STEEL PER ASTM A582.  
CONTACT - BERYLLIUM COPPER PER ASTM B196.  
INSULATOR - TEFLON PER ASTM D1710  
GASKET - SILICONE RUBBER PER ZZ-R-765  
SHRINK SLEEVE - SHRINKABLE POLYOLEFIN PER MIL-I-23053/5  
FERRULE - D.H.P. COPPER CDA ALLOY 122
- FINISHES: BODY & HEX COUPLING NUT - PASSIVATE PER QQ-P-35  
CONTACT - GOLD PLATE PER MIL-G-45204  
FERRULE - SULFAMATE NICKEL PLATE
- CONTACT PIN IS SOLDERED.
- CRIMP THE FERRULE TO .128" HEX.

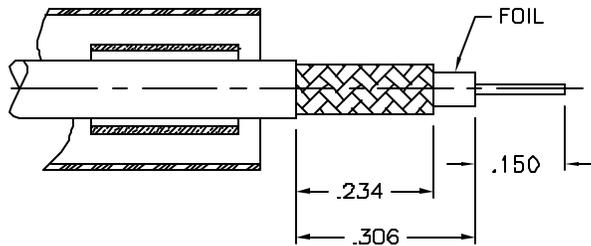
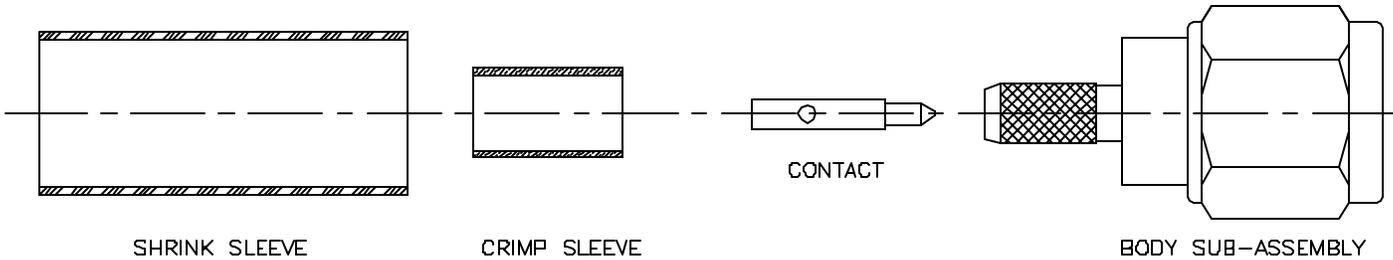
MATERIAL:	UNLESS OTHERWISE SPECIFIED		DFTM. J. C. L.	TIMES MICROWAVE SYSTEMS	
	ALL DIMENSIONS ARE IN INCHES MACHINED SURFACES FINISH N/A RMS MAX. REMOVE ALL BURRS .005 MAX. BREAK MACHINE CORNERS .005 MAX. FILLET R. TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .005 ANGLES ± 1° FRACTIONS ± 1/32		DATE 8/20/03		
USED ON: A			CHKD. J. C. L.	<b>TC-100-SM</b> SMA MALE FOR LMR100 CABLE	
			DATE 8/20/03		
SCALE: N/A	DWG. SIZE A	DO NOT SCALE DRAWING	APPD. J. C. L.	DATE 8/20/03	1 of 1   SD3190-1551   B



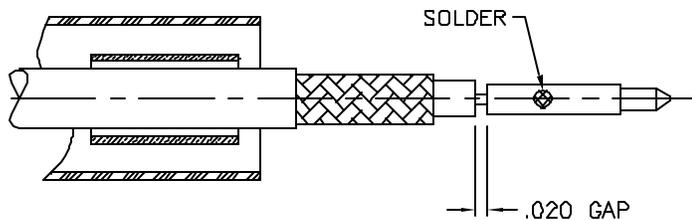
# TIMES MICROWAVE SYSTEMS

358 Hall Avenue/P.O. Box 5039  
Wallingford, CT 06492-5039  
Tel: 203-949-8400  
FAX: 203-949-8423  
1-800-TMS-COAX  
www.timesmicrowave.com

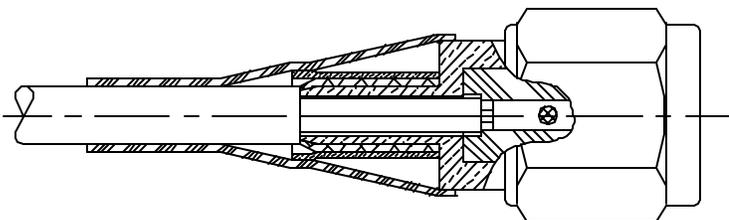
## INSTALLATION INSTRUCTIONS TC-100-SM (TIMES 3190-1551) (Cable Types: LMR-100)



- 1) A. Trim cable to dimensions shown. Slide shrink sleeve & crimp sleeve back onto cable.  
B. Remove any residual plastic from the center conductor and deburr center conductor using a fine file.



- 2) A. Slide contact onto center conductor leaving a .020 gap as shown and solder to center conductor. Use minimal heat to minimize melting of foam dielectric. Inspect to be sure aluminum foil is not touching center contact.



- 3) A. Insert cable into connector until fully seated, with all braid wires on the outside of connector body and aluminum tape inside connector body.  
B. Slide crimp sleeve forward and crimp as close as possible to body using a .128" hex die. Use Times HX-4 crimp tool or equivalent. Do not crimp rear of crimp sleeve.  
C. Heat shrink weather seal over rear of connector body and down onto cable jacket using hot air gun.

# 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



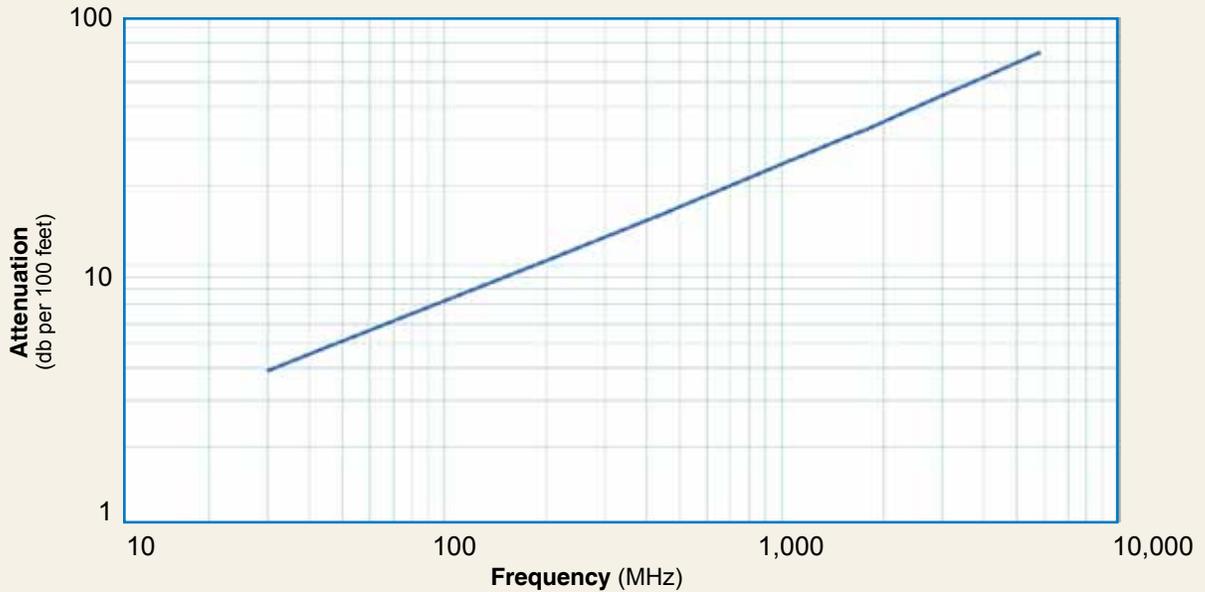
Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BCCS	0.018	(0.46)
Dielectric	Solid PE	0.060	(1.52)
Outer Conductor	Aluminum Tape	0.065	(1.65)
Overall Braid	Tinned Copper	0.083	(2.11)
Jacket	(see table above)	0.110	(2.79)

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 (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

