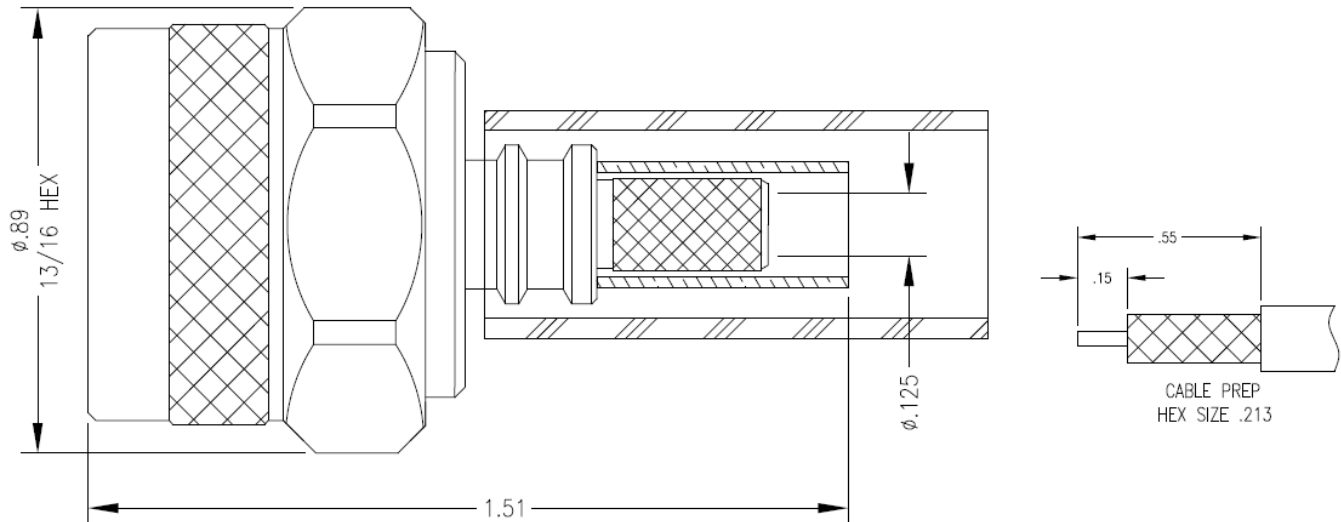


**NOTICE OF PROPRIETARY RIGHTS** THIS DOCUMENT CONTAINS CONFIDENTIAL TECHNICAL DATA, INCLUDING TRADE SECRETS, PROPRIETARY TO TIMES MICROWAVE SYSTEMS. DISCLOSURE OF THIS DATA IS EXPRESSLY CONDITIONED UPON YOUR ASSENT THAT ITS USE IS LIMITED TO USE WITHIN YOUR COMPANY ONLY. ANY OTHER USE IS STRICTLY PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF TIMES MICROWAVE SYSTEMS.

SYM	REVISION DESCRIPTION	DFTM	DATE	APPD	DATE
A	RELEASED FOR PRODUCTION	N.N.N	11/19/13	J.D.B.	11/22/13



BODY	CONTACT
ALBALOY	GOLD/NI

1.0 PERFORMANCE  
 1.1 FREQUENCY RANGE: DC-6 GHz  
 1.2 NOMINAL IMPEDANCE: 50 OHMS  
 1.3 DWV: 500 VRMS @ 60 Hz (SEA LEVEL)  
 1.4 TEMPERATURE RANGE: -65°C TO +165°C

2.0 MATERIALS  
 2.1 DIELECTRIC: PTFE  
 2.2 CONTACT: BERYLLIUM COPPER  
 2.3 LOCKING RING: PHOSPHOR BRONZE  
 2.4 CRIMP FERRULE: SOFT COPPER  
 2.5 OTHER METAL PARTS: BRASS  
 2.6 GASKET: SILICONE RUBBER  
 2.7 HEAT SHRINK: POLYOLEFIN THICK WALL

3.0 FINISHES: SEE TABLE  
 4.0 MECHANICAL  
 4.1 INTERFACE PER MIL-STD-348, N, ENHANCED

MATL:	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. N. N. N	TIMES MICROWAVE SYSTEMS		
USED ON: B		DATE 11/19/13	<b>EZ-200-NMH-X</b> N MALE for LMR-200		
		CHKD. J. D. B.			
SCALE: N/A	DWG. SIZE A	DATE 11/22/13	SD3190-2886		
		APPD. J. D. B.			
DO NOT SCALE DRAWING	CODE IDENT 68999	DATE 11/22/13	SHEET 1 of 1	REV A	



RP TNC Male Connector Crimp/Crimp  
Attachment for LMR-200, PE-C200

RF Connectors Technical Data Sheet

PE45283

### Configuration

- TNC Male Reverse Polarity Connector
- 50 Ohms
- Straight Body Geometry
- LMR-200, PE-C200 Interface Type
- Crimp/Crimp Attachment

### Features

- Max. Operating Frequency 11 GHz
- Gold Plated Phosphor Bronze Contact
- Reverse Polarity

### Applications

- General Purpose Test
- Custom Cable Assemblies

### Description

Pasternack's PE45283 RP TNC male connector with crimp/crimp attachment for LMR-200 and PE-C200 is part of our full line of RF components available for same-day shipping. The male reverse polarity configuration uses a male connector body with a female inner contact receptacle. Our TNC male connector operates up to a maximum frequency of 11 GHz.

Our reverse polarity TNC male connector PE45283 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		11	GHz

### Mechanical Specifications

Size	
Length	1.25 in [31.75 mm]
Width/Dia.	0.571 in [14.50 mm]
Weight	0.033 lbs [14.97 g]
Mating Cycles	500 Cycles

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [RP TNC Male Connector Crimp/Crimp Attachment for LMR-200, PE-C200 PE45283](#)



## RP TNC Male Connector Crimp/Crimp Attachment for LMR-200, PE-C200

### RF Connectors Technical Data Sheet

**PE45283**

#### Material Specifications

Description	Material	Plating
Contact	Phosphor Bronze	Gold
Insulation	PTFE	
Body	Brass	Nickel
Coupling Nut	Brass	Nickel
Crimp Sleeve	Brass	Nickel
O-Ring	Rubber	

#### Environmental Specifications

##### Temperature

Operating Range

+165 to -65 deg C

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

#### Plotted and Other Data

Notes:

RP TNC Male Connector Crimp/Crimp Attachment for LMR-200, PE-C200 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.

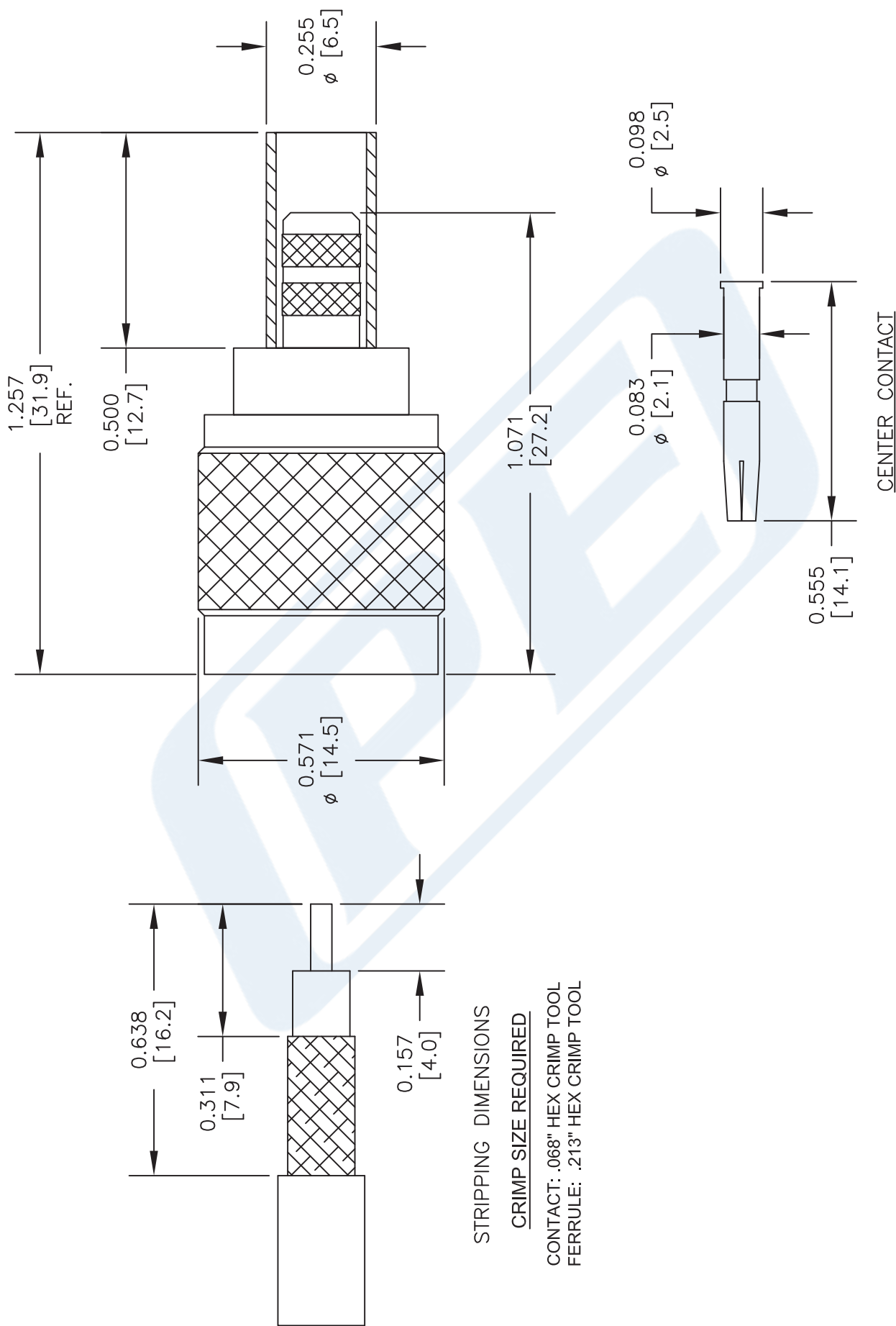
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [RP TNC Male Connector Crimp/Crimp Attachment for LMR-200, PE-C200 PE45283](#)

URL: <https://www.pasternack.com/tnc-male-reverse-polarity-lmr-200-pe-c200-connector-pe45283-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.

# PE45283 CAD Drawing

RP TNC Male Connector Crimp/Crimp Attachment for LMR-200, PE-C200



DWG TITLE

PE45283

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.

FSCM NO. 53919

CAD FILE 081616

SCALE N/A

SIZE A

2233

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

Pasternack Enterprises, Inc.  
P.O. Box 16759 | Irvine | CA | 92623  
Phone: (949) 261-1920 | Fax: (949) 261-7451  
Website: www.pasternack.com | E-Mail: sales@pasternack.com

## LMR<sup>®</sup>-200 Flexible Low Loss Communications Coax

### Ideal for...

- 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>** standard is a UV Resistant Polyethylene jacketed cable designed for 20-year service outdoor use. The bending and handling characteristics are significantly better than air-dielectric and corrugated hard-line cables.

• **LMR<sup>®</sup>-DB** is identical to standard LMR plus has the advantage of being watertight. The addition of waterproofing compound in and around the foil/braid insures continuous reliable service should the jacket be inadvertently damaged during installation or in the future.

• **LMR<sup>®</sup>-FR** is a non-halogen (non-toxic), low smoke, fire retardant cable designed for in-building runs that can be routed anywhere except air handling plenums. LMR-FR is UL/NEC & CSA rated 'CMR' and 'FT4' respectively, meets FAA FAR25 requirements and is MSHA-P for mining applications.

• **LMR<sup>®</sup>-FR-PVC** is a general-purpose indoor cable and has a UL/NEC & CSA rating of 'CMR' and 'FT4' respectively. It is less expensive than LMR-FR, however it emits toxic fumes (HCL) and greater smoke density when burned.

• **LMR<sup>®</sup>-PVC** is designed for low loss general-purpose 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 applications where color compatibility is desired.

• **LMR<sup>®</sup>-MA** is a flexible cable designed specifically for mobile antenna applications. It has a PVC jacket and un-bonded aluminum tape to facilitate end stripping with automated equipment.

• **Flexibility** and bendability are hallmarks of the LMR-200 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-200. 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-200 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-200 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-200 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-200	Outdoor	PE	Black	54022
LMR-200-DB	Outdoor/Watertight	PE	Black	54089
LMR-200-FR	Indoor/Outdoor Riser	CMR FRPE	Black	54028
LMR-200-FR-PVC	Indoor/Outdoor Riser	CMR FRPVC	Black	54125
LMR-200-PVC	General Purpose	PVC	Black	54216
LMR-200-PVC-W	General Purpose	PVC	White	54201
LMR-200-MA	Mobile Antennas	PVC	Black	54045

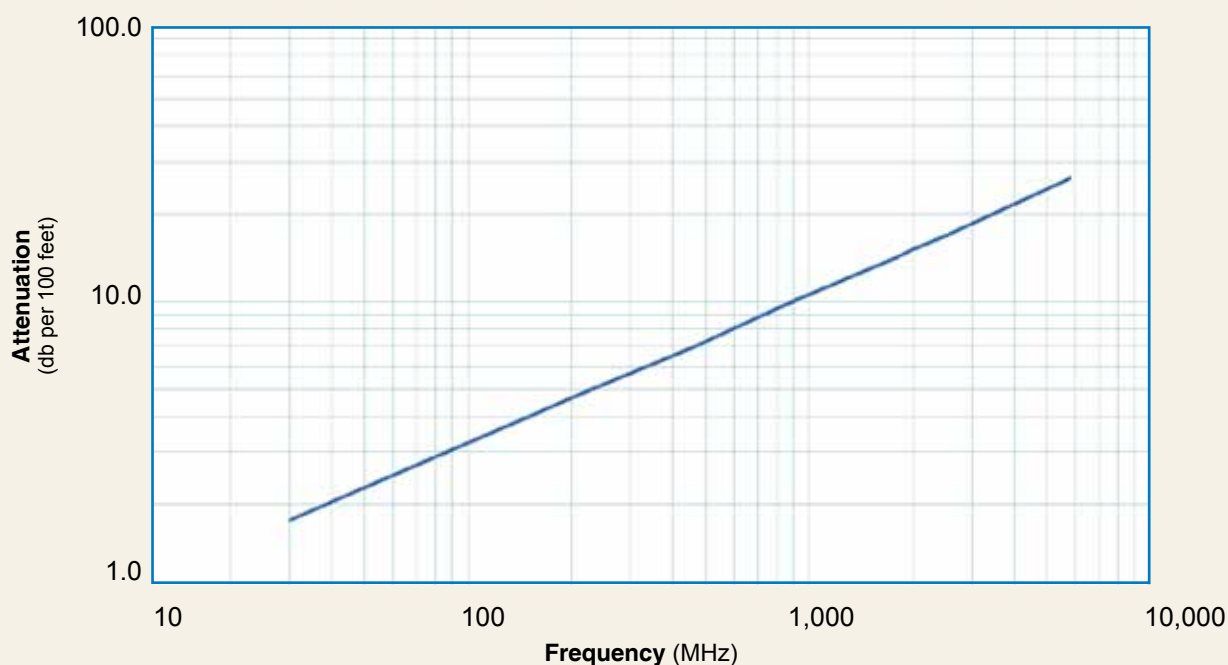
Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BC	0.044	(1.12)
Dielectric	Foam PE	0.116	(2.95)
Outer Conductor	Aluminum Tape	0.121	(3.07)
Overall Braid	Tinned Copper	0.144	(3.66)
Jacket	(see table above)	0.195	(4.95)

Mechanical Specifications			
Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	0.5	(12.7)
Bend Radius: repeated	in. (mm)	2	(50.8)
Bending Moment	ft-lb (N-m)	0.2	(0.27)
Weight	lb/ft (kg/m)	0.022	(0.03)
Tensile Strength	lb (kg)	40	(48)
Flat Plate Crush	lb/in. (kg/mm)	15	(0.27)

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	%	83	
Dielectric Constant	NA	1.45	
Time Delay	nS/ft (nS/m)	1.22	(4.02)
Impedance	ohms	50	
Capacitance	pF/ft (pF/m)	24.5	(80.3)
Inductance	uH/ft (uH/m)	0.061	(0.20)
Shielding Effectiveness	dB	>90	
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	5.36	(17.6)
Outer Conductor	ohms/1000ft (/km)	4.9	(16.1)
Voltage Withstand	Volts DC	1000	
Jacket Spark	Volts RMS	3000	
Peak Power	kW	2.5	

### Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500	5800
Attenuation dB/100 ft	1.8	2.3	4.0	4.8	7.0	9.9	12.9	14.2	15.0	16.9	26.4
Attenuation dB/100 m	5.8	7.5	13.1	15.9	22.8	32.6	42.4	46.6	49.3	55.4	86.5
Avg. Power kW	1.02	0.79	0.45	0.37	0.26	0.18	0.14	0.13	0.12	0.11	0.07

#### Calculate Attenuation =

$(0.320900) \cdot \sqrt{\text{FMHz}} + (0.000330) \cdot \text{FMHz}$  (interactive calculator available at [http://www.timesmicrowave.com/cable\\_calculators](http://www.timesmicrowave.com/cable_calculators))

#### 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



# LMR<sup>®</sup>-200 Flexible Low Loss Communications Coax



## 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)
BNC male	Straight Plug	TC-200-BM	3190-225	<1.25:1 (2.5)	Knurl	Solder	Crimp	S/G	1.7 (43.2)	0.56 (14.2)	0.045 (20.4)
Mini-UHF	Straight Plug	TC-200-MUHF	3190-444	<1.25:1 (2.5)	Knurl	Solder	Crimp	NG	1.1 (27.9)	0.45 (11.4)	0.015 (6.8)
N male	Straight Plug	EZ-200-NM	3190-1475	<1.25:1 (8)	Knurl	Spring Fit	Crimp	S/G	1.5 (38.1)	0.75 (19.1)	0.073 (33.1)
N male	Straight Plug	EZ-200-NMH-D	3190-1918	<1.25:1 (8)	Hex/Knurl	Spring Fit	Crimp	A/G	1.5 (38.1)	0.75 (19.1)	0.073 (33.1)
N male	Straight Plug	TC-200-NM	3190-224	<1.25:1 (2.5)	Knurl	Solder	Crimp	S/G	1.5 (38.1)	0.75 (19.1)	0.073 (33.1)
N male	Reverse Polarity	TC-200-NM-RP	3190-959	<1.25:1 (2.5)	Knurl	Solder	Crimp	N/G	1.5 (38.1)	0.75 (19.1)	0.073 (33.1)
SMA male	Straight Plug	TC-200-SM	3190-612	<1.25:1 (8)	Hex	Solder	Crimp	SS/G	1.0 (25.4)	0.32 (8.1)	0.015 (6.8)
SMA male	Reverse Polarity	TC-200-SM-RP	3190-327	<1.25:1 (2.5)	Hex	Solder	Crimp	SS/G	1.0 (25.4)	0.32 (8.1)	0.015 (6.8)
TNC male	Straight Plug	EZ-200-TM	3190-1266	<1.25:1 (2.5)	Knurl	Spring Fit	Crimp	S/G	1.4 (35.6)	0.59 (15.0)	0.045 (20.4)
TNC male	Straight Plug	TC-200-TMC	3190-240	<1.25:1 (2.5)	Knurl	Solder	Clamp	S/G	1.7 (43.2)	0.59 (15.0)	0.045 (20.4)
TNC male	Reverse Polarity	EZ-200-TM-RP	3190-792	<1.25:1 (2.5)	Knurl	Spring Fit	Crimp	A/G	1.4 (35.6)	0.32 (8.1)	0.045 (20.4)
TNC female	Straight Jack	TC-200-TF	3190-263	<1.25:1 (2.5)	NA	Solder	Crimp	N/G	1.3 (33.0)	0.57 (14.5)	0.033 (15.0)
TNC female	Reverse Polarity	EZ-200-TF-RP	3190-793	<1.25:1 (2.5)	NA	Spring Fit	Crimp	A/G	1.3 (33.0)	0.57 (14.5)	0.033 (15.0)

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



## Hardware Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S200TT	GK-S200TT	Standard Ground Kit (each)



## 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
Deburr Tool	DBT-U	3192-001	Removes center conductor rough edges
Replacement Blade	RB-01	3190-1609	Replacement blade for cutting tool