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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
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	DO NOT SCALE DRAWING		CHKD. J. C. L.	TC-100-SM SMA MALE FOR LMR100 CABLE	
			DATE 8/20/03		
SCALE: N/A	DWG. SIZE A	CODE IDENT 68999	APPD. J. C. L.	DATE 8/20/03	SHEET 1 of 1
				DATE 8/20/03	REV 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.



BNC Male Right Angle Connector Crimp/Solder Attachment for RG174, RG316, RG188, .100 inch, PE-B100, PE-C100, LMR-100

RF Connectors Technical Data Sheet

PE4393

Configuration

- BNC Male Connector
- 50 Ohms
- Right Angle Body Geometry
- RG174, RG316, RG188, .100 inch, PE-B100, PE-C100, LMR-100 Interface Type
- Crimp/Solder Attachment

Features

- Max. Operating Frequency 4 GHz
- Gold Plated Brass Contact
- 30 μ m minimum contact plating

Applications

- General Purpose Test
- Custom Cable Assemblies

Description

Pasternack's PE4393 BNC male right angle connector with crimp/solder attachment for RG174, RG316, RG188, .100 inch, PE-B100, PE-C100 and LMR-100 is part of our full line of RF components available for same-day shipping. Our BNC male connector operates up to a maximum frequency of 4 GHz. Its right angle body geometry allows for easier connections in tight spaces.

Our BNC male right angle connector PE4393 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		4	GHz
Operating Voltage (AC)			500	Vrms

Mechanical Specifications

Size

Length	1.79 in [45.47 mm]
Width/Dia.	0.57 in [14.48 mm]
Height	1.06 in [26.92 mm]
Weight	0.052 lbs [23.59 g]

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [BNC Male Right Angle Connector Crimp/Solder Attachment for RG174, RG316, RG188, .100 inch, PE-B100, PE-C100, LMR-100 PE4393](#)



BNC Male Right Angle Connector Crimp/Solder Attachment for
RG174, RG316, RG188, .100 inch, PE-B100, PE-C100, LMR-100

RF Connectors
Technical Data Sheet

PE4393

Material Specifications

Description	Material	Plating
Contact	Brass	Gold 30 µin minimum
Insulation	PTFE	
Body	Brass	Nickel 100 µin minimum
Coupling Nut	Brass	Nickel 100 µin minimum

Environmental Specifications

Temperature

Operating Range

-65 to +165 deg C

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

Plotted and Other Data

Notes:

BNC Male Right Angle Connector Crimp/Solder Attachment for RG174, RG316, RG188, .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 99.4% 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: [BNC Male Right Angle Connector Crimp/Solder Attachment for RG174, RG316, RG188, .100 inch, PE-B100, PE-C100, LMR-100 PE4393](#)

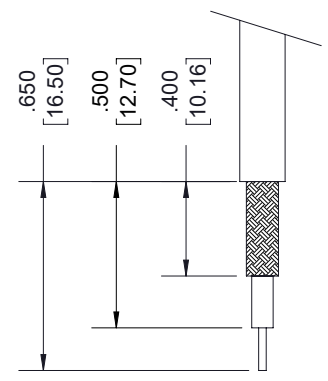
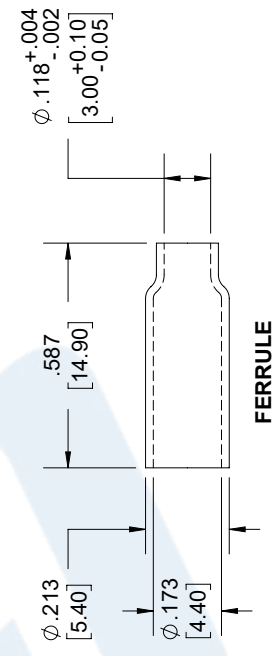
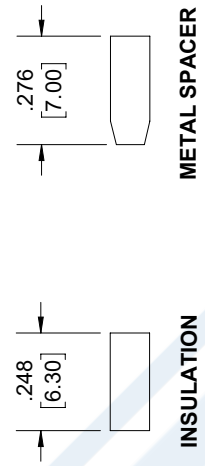
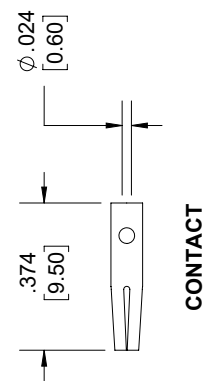
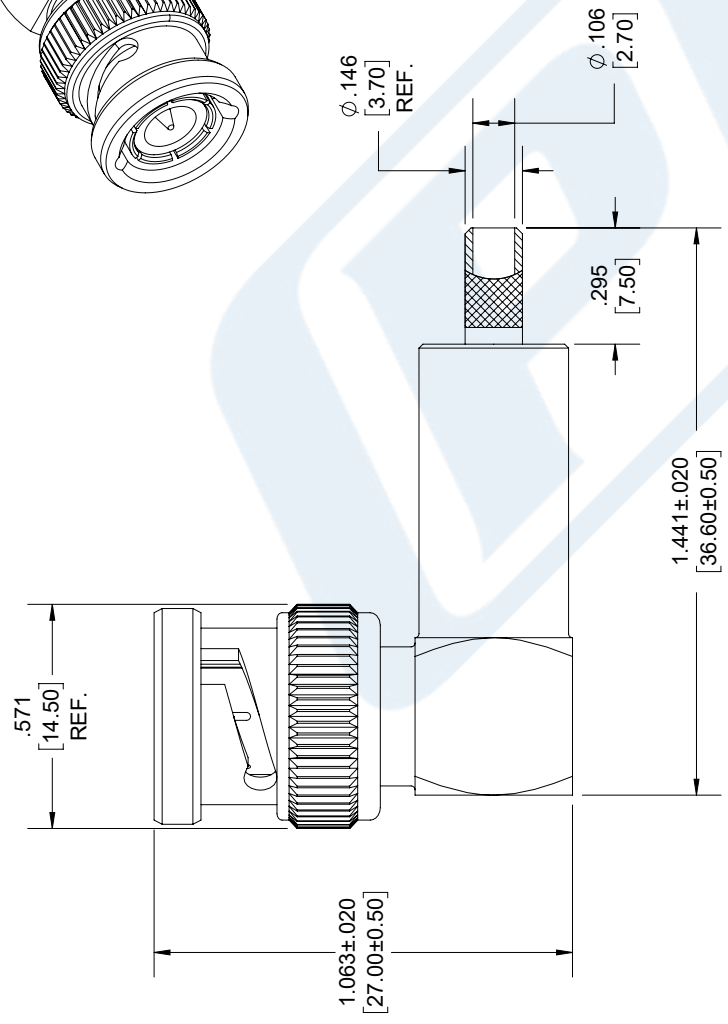
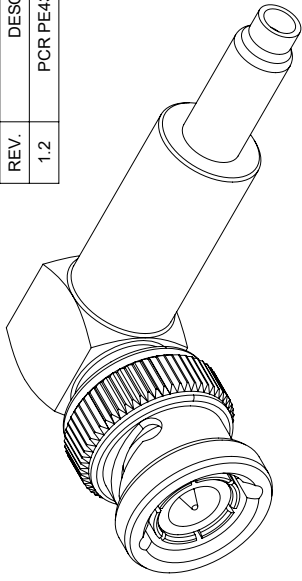
URL: <https://www.pasternack.com/bnc-male-standard-rg174-rg316-rg188-connector-pe4393-p.aspx>

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.

PE4393 CAD Drawing

BNC Male Right Angle Connector Crimp/Solder Attachment for RG174, RG316, RG188, .100 inch, PE-B100, PE-C100, LMR-100

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1.2	PCR PE4393 20190530	06/03/19	SELLIS



STRIPPING DIMENSIONS

NOTES:

- CABLE ATTACHMENT:
 - OUTER: CRIMP.
 - INNER: SOLDER/CRIMP.
- CRIMP SIZE REQUIRED:
 - FERRULE: .178 [4.52] HEX. CRIMP TOOL.
 - CONTACT: .068 [1.73] HEX. CRIMP TOOL.

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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS	
TOLERANCES:	FRACTIONS
X±.2 [5.08]	±.132
.XX±.01 [0.25]	±.132
.XXX±.005 [0.13]	±.132
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.	
THIRD-ANGLE PROJECTION	

PE PASTERNAK
an INFINITO brand

Pasternack Enterprises, Inc.
P.O. Box 16759, Irvine, CA 92623.
Phone: 1.949.261.1920 | 1.866.727.8376
Fax: 1.949.261.7451
www.pasternack.com | e-mail: sales@pasternack.com

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SHEET 1 OF 1
SCALE N/A

SIZE	CAGE	DRAWN BY	PART NUMBER	REV
A	53919	KDANG	PE4393	1.2

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



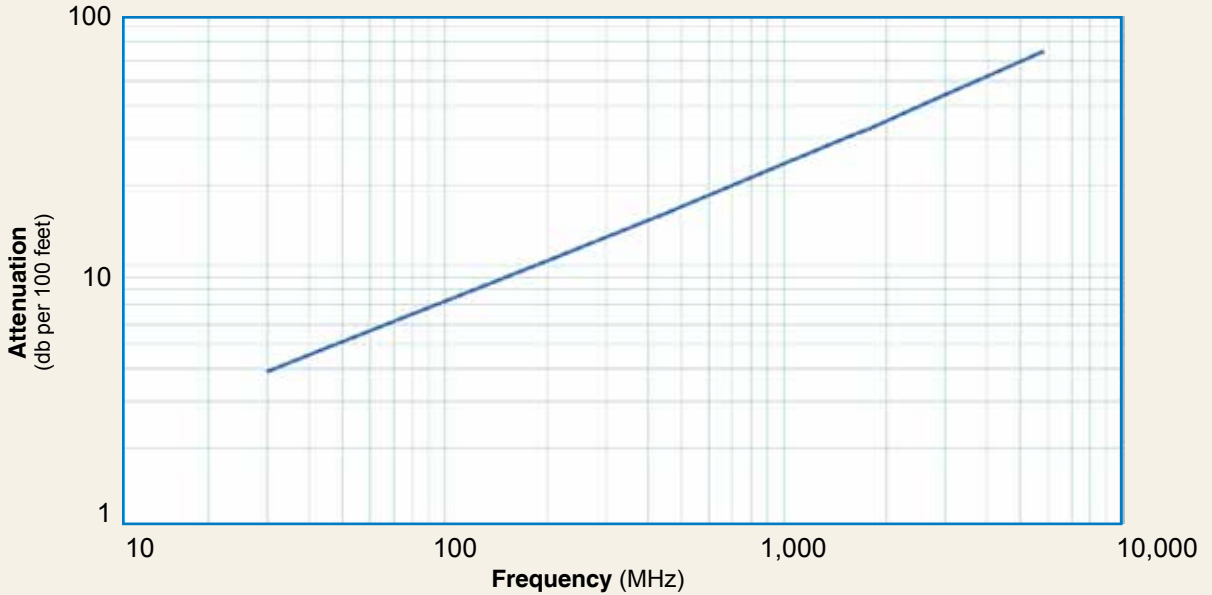
Construction Specifications			
Description	Material	In.	(mm)
Inner Conductor	Solid BCCS	0.018	(0.46)
Dielectric	Solid PE	0.060	(1.52)
Outer Conductor	Aluminum Tape	0.065	(1.65)
Overall Braid	Tinned Copper	0.083	(2.11)
Jacket	(see table above)	0.110	(2.79)

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

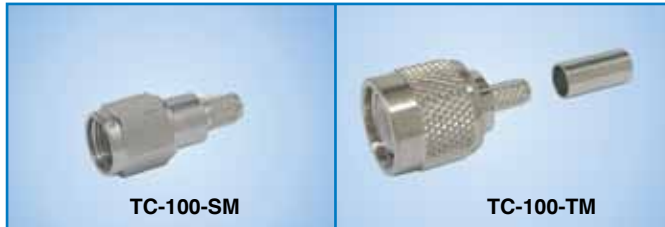
Electrical Specifications			
Performance Property	Units	US	(metric)
Velocity of Propagation	%	66	
Dielectric Constant	NA	2.30	
Time Delay	nS/ft (nS/m)	1.54	(5.05)
Impedance	ohms	50	
Capacitance	pF/ft (pF/m)	30.8	(101.1)
Inductance	uH/ft (uH/m)	0.077	(0.25)
Shielding Effectiveness	dB	>90	
DC Resistance			
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
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 = $(0.709140) \cdot \sqrt{\text{FMHz}} + (0.001740) \cdot \text{FMHz}$ (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

