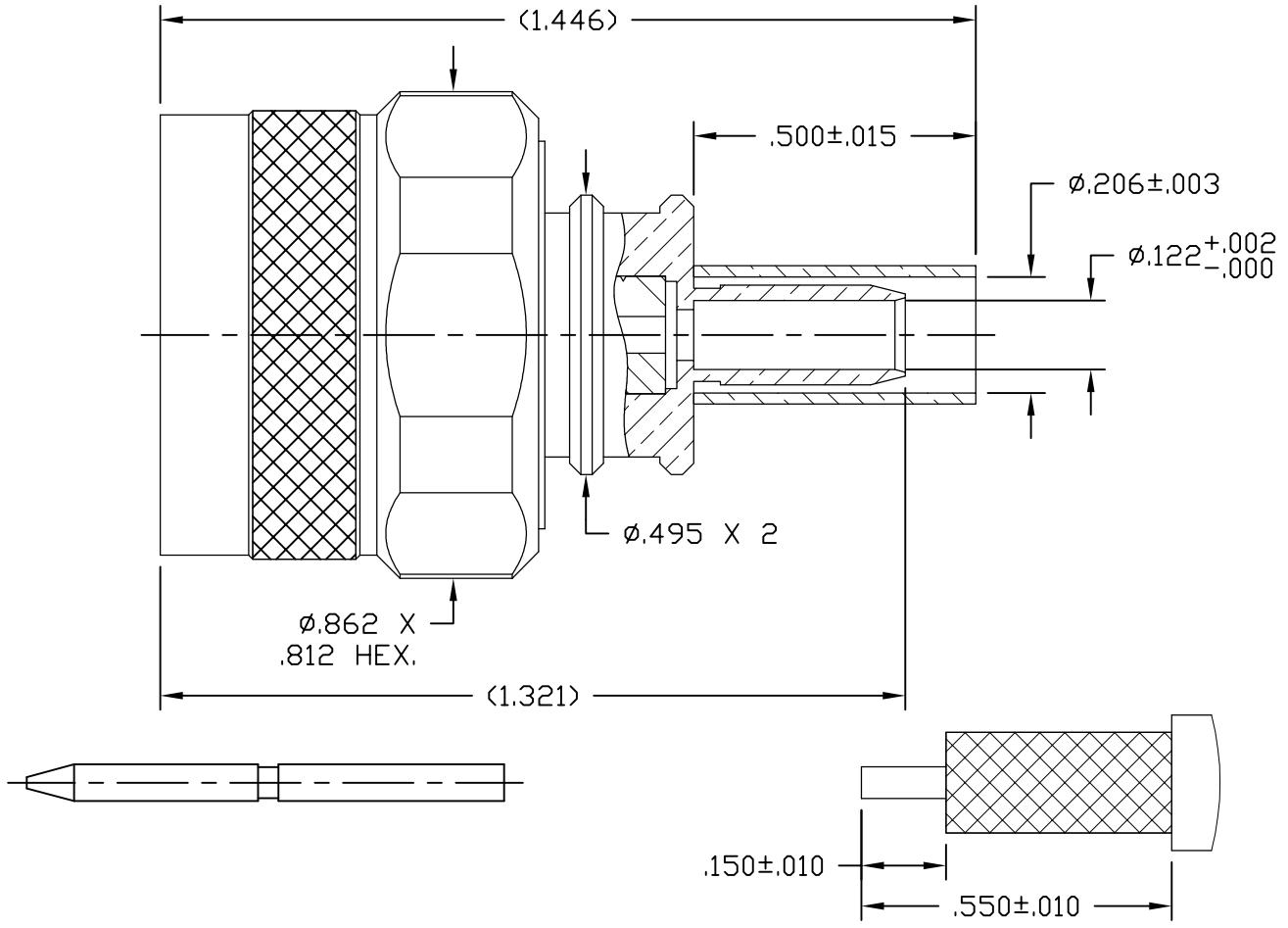


NOTICE OF PROPRIETARY RIGHTS THIS DOCUMENT CONTAINS CONFIDENTIAL TECHNICAL DATA, INCLUDING TRADE SECRETS, PROPRIETARY TO TIMES MICROWAVE SYSTEMS. DISCLOSURE OF THIS DATA IS EXPRESSLY CONDITIONED UPON YOUR ASSENT THAT ITS USE IS LIMITED TO USE WITHIN YOUR COMPANY ONLY. ANY OTHER USE IS STRICTLY PROHIBITED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

| SYM | REVISION DESCRIPTION | DFTM | DATE | APPD | DATE |
|-----|-------------------------|----------|----------|----------|----------|
| A | RELEASED FOR PRODUCTION | N. N. N. | 1/15/14 | J. D. B. | 1/15/14 |
| B | CHANGED PER CDC #41149 | D. J. H. | 11/13/14 | J. D. B. | 11/20/14 |



NOTES:

1. INTERFACE IS DESIGNED IN ACCORDANCE WITH MIL-STD-348.

MATERIAL:

BODY & CONTACT – BRASS PER ASTM B16, C36000 ALLOY, TEMPER H02.
 INSULATOR – TEFLON PER ASTM D1710, TYPE 1, GRADE 1, CLASS A.
 SHRINK SLEEVE – HEAT SHRINKABLE ATUM PER MIL-I-23053/4 (NOT SHOWN).
 CRIMP SLEEVE – D.H.P. COPPER CDA ALLOY #122, TEMPER HARD.
 GASKET – SILICONE RUBBER PER A-A-59588, 50-75 DUROMETER.
 LOCKING RING – PHOSPHOR BRONZE PER ASTM B139, C54400 ALLOY, CONDITION HD.

2. FINISHES:

CONTACT – GOLD PLATE PER ASTM B488.
 CRIMP SLEEVE – SILVER PLATE PER ASTM B700.
 ALL OTHER METAL PARTS – ALBALLOY PLATE.

| | | | | | |
|-------------|---|-------------------|----------------|---|------------------------------|
| MATL: | UNLESS OTHERWISE SPECIFIED | | DFTM. N. N. N. | 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 1/15/14 | | |
| USED ON: B | DO NOT SCALE DRAWING | | CHKD. J. D. B. | TC-195-NMH-X "N" MALE FOR LMR-195 CABLE (SOLDER/CRIMP) | |
| | | | DATE 1/15/14 | | |
| SCALE: NONE | DWG. SIZE: A | CODE IDENT: 68999 | APPD. J. D. B. | DATE 1/15/14 | 1 of 1 SD3190-2880 REV B |



QMA Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch

RF Connectors Technical Data Sheet

PE44506

Configuration

- QMA Male Connector
- 50 Ohms
- Right Angle Body Geometry
- PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch Interface Type
- Crimp/Solder Attachment

Features

- Max. Operating Frequency 18 GHz
- Gold Plated Phosphor Bronze Contact

Applications

- General Purpose Test
- Custom Cable Assemblies

Description

Pasternack's PE44506 QMA male right angle connector with crimp/solder attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195 and 0.195 inch is part of our full line of RF components available for same-day shipping. Our QMA male connector operates up to a maximum frequency of 18 GHz. Its right angle body geometry allows for easier connections in tight spaces.

Our QMA male right angle connector PE44506 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 | | 18 | GHz |

Mechanical Specifications

| Size | |
|------------|---------------------|
| Length | 0.89 in [22.61 mm] |
| Width/Dia. | 0.41 in [10.41 mm] |
| Height | 0.732 in [18.59 mm] |
| Weight | 0.023 lbs [10.43 g] |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [QMA Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch PE44506](#)



QMA Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch

RF Connectors Technical Data Sheet

PE44506

Material Specifications

| Description | Material | Plating |
|-----------------|-----------------|-----------|
| Contact | Phosphor Bronze | Gold |
| Insulation | PTFE | |
| Outer Conductor | Phosphor Bronze | Tri-Metal |
| Body | Brass | Tri-Metal |

Environmental Specifications

Temperature

Operating Range -65 to +165 deg C

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

Plotted and Other Data

Notes:

QMA Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch 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.

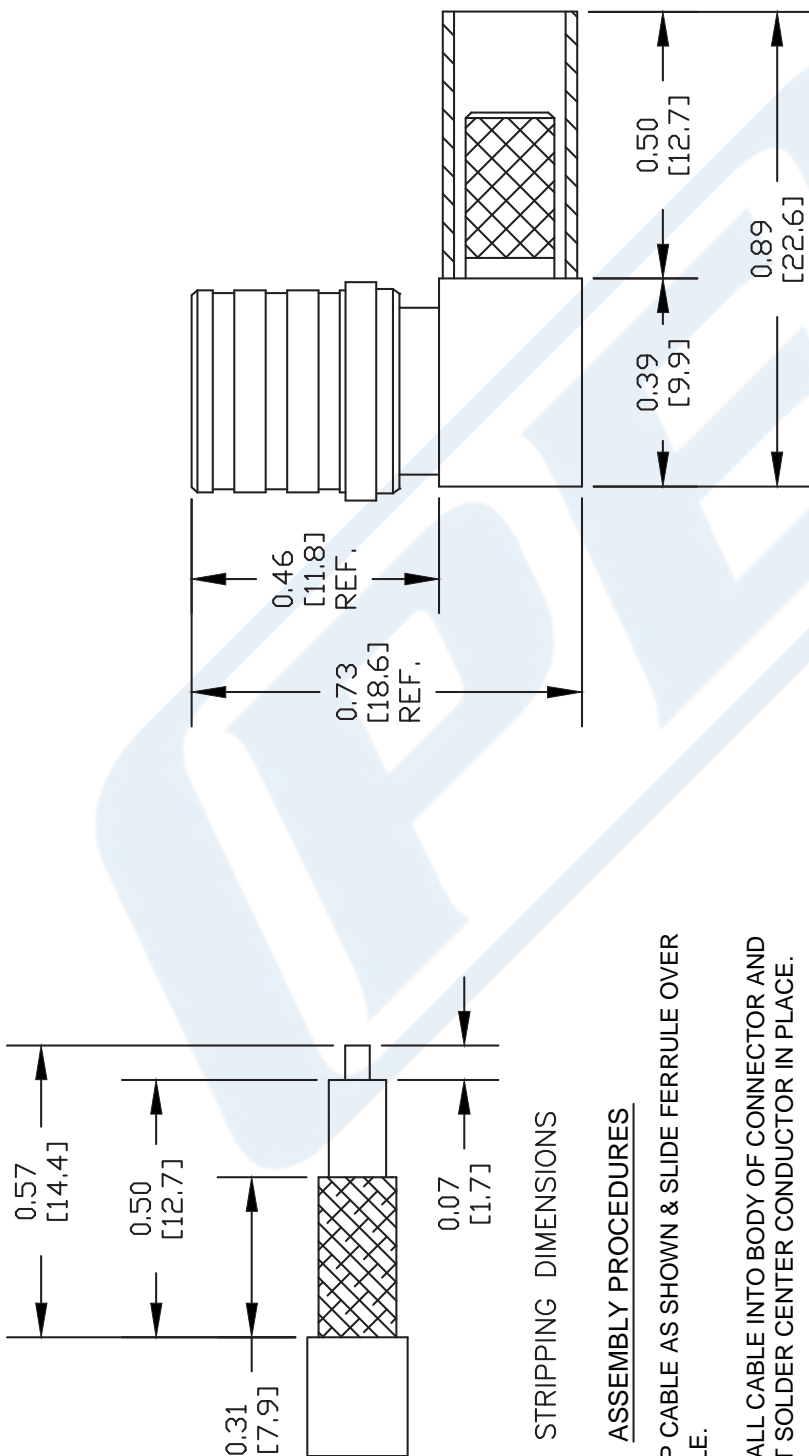
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [QMA Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch PE44506](#)

URL: <https://www.pasternack.com/qma-male-standard-rg58-rg141-connector-pe44506-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.

PE44506 CAD Drawing

QMA Male Right Angle Connector Crimp/Solder Attachment for PE-C195, PE-P195, RG58, RG141, RG303, LMR-195, 0.195 inch



STRIPPING DIMENSIONS

ASSEMBLY PROCEDURES

1. STRIP CABLE AS SHOWN & SLIDE FERRULE OVER CABLE.
2. INSTALL CABLE INTO BODY OF CONNECTOR AND SOFT SOLDER CENTER CONDUCTOR IN PLACE.
3. CRIMP FERRULE & PRESS CAP DOWN.

CRIMP SIZE REQUIRED

FERRULE: .213 CRIMP TOOL



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

DWG TITLE

PE44506

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.

REV. A

FSCM NO. 53919

CAD FILE 081111-A

SCALE N/A

SIZE A

2231

LMR®-195

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
 - Drop-in replacement for RG-58 and RG-142
- **LMR®** 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® - 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® - 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® - 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® - PVC** is designed for low loss general-purpose 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 applications where color compatibility is desired.
 - **LMR® - 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-195 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-195. 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-195 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-195 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-195 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-195 | Outdoor | PE | Black | 54110 | |
| LMR-195-DB | Outdoor/Watertight | PE | Black | 54113 | |
| LMR-195-FR | Indoor/Outdoor Riser | CMR | FRPE | Black | 54111 |
| LMR-195-FR-W | Indoor/Outdoor Riser | CMR | FRPE | White | 54158 |
| LMR-195-FR-PVC | Indoor/Outdoor Riser | CMR | FRPVC | Black | 54105 |
| LMR-195-MA | Mobile Antennas | PVC | Black | 54210 | |
| LMR-195-PVC | General Purpose | PVC | Black | 54215 | |
| LMR-195-PVC-W | General Purpose | PVC | White | 54199 | |

| Construction Specifications | | | |
|-----------------------------|-------------------|-------|--------|
| Description | Material | In. | (mm) |
| Inner Conductor | Solid BC | 0.037 | (0.94) |
| Dielectric | Foam PE | 0.110 | (2.79) |
| Outer Conductor | Aluminum Tape | 0.116 | (2.95) |
| Overall Braid | Tinned Copper | 0.139 | (3.53) |
| 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) | 2.0 | (50.8) |
| Bending Moment | ft-lb (N-m) | 0.2 | (0.27) |
| Weight | lb/ft (kg/m) | 0.021 | (0.03) |
| Tensile Strength | lb (kg) | 40 | (18.2) |
| Flat Plate Crush | lb/in. (kg/mm) | 15 | (0.27) |

| Electrical Specifications | | | |
|---------------------------|-------------------|-------|----------|
| Performance Property | Units | US | (metric) |
| Velocity of Propagation | % | 76 | |
| Dielectric Constant | NA | 1.56 | |
| Time Delay | nS/ft (nS/m) | 1.27 | (4.17) |
| Impedance | ohms | 50 | |
| Capacitance | pF/ft (pF/m) | 25.4 | (83.3) |
| Inductance | uH/ft (uH/m) | 0.064 | (0.21) |
| Shielding Effectiveness | dB | >90 | |
| DC Resistance | | | |
| Inner Conductor | ohms/1000ft (/km) | 7.6 | (24.9) |
| Outer Conductor | ohms/1000ft (/km) | 4.9 | (16.1) |
| Voltage Withstand | Volts DC | 1000 | |
| Jacket Spark | Volts RMS | 3000 | |
| Peak Power | kW | 2.5 | |

| 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 |



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) |
|-----------|---------------|-----------------|------------|--------------------|--------------|----------------------|----------------------|-------------------|----------------|---------------|---------------|
| N male | Straight Plug | TC-195-NM | 3190-1555 | <1.25:1 (2.5) | Knurl | Solder | Crimp | S/G | 1.5 (38.1) | 0.75 (19.1) | 0.073 (33.1) |
| N male | Right Angle | TC-195-NMH-RA-D | 3190-2425 | <1.35:1 (6) | Hex/Knurl | Solder | Crimp | A/G | 1.3 (32.1) | 1.19 (30.1) | 0.083 (37.5) |
| SMA male | Straight Plug | TC-195-SM | 3190-1553 | <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 | TC-195-TM | 3190-1554 | <1.25:1 (2.5) | 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=Alloy **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 |
| Deburr Tool | DBT-U | 3192-001 | Removes center conductor rough edges |
| Replacement Blade | RB-01 | 3190-1609 | Replacement blade for cutting tool |

