

**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 | 9/4/13 | J. D. B. | 9/10/13 |



**NOTES:**

- ASSEMBLED CONNECTOR INTERFACE IS DESIGNED IN ACCORDANCE WITH MIL-STD-348
- MATERIAL:**

CLAMP & CONTACT - BRASS PER ASTM B16, C36000 ALLOY, TEMPER H02  
 BODY, CNUT - STAINLESS STEEL PER ASTM 582, S30300 ALLOY, COND. A  
 INSULATOR - TEFLON PER ASTM D1710, TYPE 1, GRADE 1, CLASS A  
 GASKET - SILICONE RUBBER PER A-A-59588, 50-75 DUROMETER  
 SHRINK SLEEVE - HEAT SHRINKABLE ATUM PER MIL-I-23053/4 (NOT SHOWN)  
 CRIMP SLEEVE - D.H.P. COPPER CDA, ALLOY #122, TEMPER HARD  
 CONTACT & LOCKING RING - BERYLLIUM COPPER PER ASTM B196, C17300 ALLOY, CONDITION HT

- FINISH:**  
 CONTACT - GOLD PLATE PER ASTM B488  
 CRIMP SLEEVE - SULFAMATE NICKEL PER MIL-P-27418  
 CLAMP - NICKEL PLATE PER AMS-QQ-N-290  
 C'NUT & BODY - PASSIVATE PER SAE-AMS-2700

|             |  |                  |                |  |        |
|-------------|--|------------------|----------------|--|--------|
| MATERIAL:   | UNLESS OTHERWISE SPECIFIED   |                  | DFTM. N. N. N  | TIMES MICROWAVE SYSTEMS                                  |        |
|             | ALL DIMENSIONS ARE IN INCHES<br>MACHINED SURFACES FINISH 63 RMS MAX.<br>REMOVE ALL BURRS .004 MAX. BREAK<br>MACHINE CORNERS .005 MAX. FILLET R.<br>TOLERANCES ON DECIMALS<br>. XX ± .01 . XXX ± .005<br>ANGLES ± 1° FRACTIONS ± 1/64 |                  | DATE 9/4/13    |  |        |
| USED ON: A  | DO NOT SCALE DRAWING   |                  | CHKD. J. D. B. | TC-240-SM-SS-X<br>CONNECTOR ASSEMBLY<br>SMAM for LMR-240 |        |
|             |  |                  | DATE 9/10/13   |  |        |
| SCALE: NONE | DWG. SIZE A  | CODE IDENT 68999 | APPD. J. D. B. | DATE 9/10/13   | 1 of 1 |
|             |  |                  |                | SD3190-2898  | A      |



# TNC Male Connector Crimp/Solder Attachment for LMR-240, PE-C240

## RF Connectors Technical Data Sheet



TC-240-TM-X

### Times Microwave Systems Connector Specification

#### Configuration

- TNC Male Connector
- 50 Ohms
- Straight Body Geometry
- Connector Interface Types: LMR-240, PE-C240

#### Features

- Max. Operating Frequency 8 GHz
- Good VSWR of 1.3:1
- Gold Plated Brass Contact
- 50 μinch contact plating

#### Applications

- General Purpose Test
- Custom Cable Assemblies

#### Description

Pasternack's TC-240-TM-X TNC male connector with crimp/solder attachment for LMR-240 and PE-C240 is part of our full line of RF components available for same-day shipping. Our TNC male connector operates up to a maximum frequency of 8 GHz and offers good VSWR of 1.3:1.

Our TNC male connector TC-240-TM-X 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      |         | 8       | GHz   |
| VSWR                                 |         |         | 1.3:1   |       |
| Insertion Loss                       |         |         | 0.3     | dB    |
| Operating Voltage (AC)               |         |         | 500     | Vrms  |
| Dielectric Withstanding Voltage (AC) |         |         | 1,500   | Vrms  |
| Insulation Resistance                | 5,000   |         |         | MOhms |

#### Mechanical Specifications

##### Size

|            |                     |
|------------|---------------------|
| Length     | 1.22 in [30.99 mm]  |
| Width/Dia. | 0.59 in [14.99 mm]  |
| Weight     | 0.051 lbs [23.13 g] |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [TNC Male Connector Crimp/Solder Attachment for LMR-240, PE-C240 TC-240-TM-X](#)



# TNC Male Connector Crimp/Solder Attachment for LMR-240, PE-C240

## RF Connectors Technical Data Sheet



TC-240-TM-X

Mating Cycles 500 Cycles  
Mating Torque 8 to 12 in-lbs [0.90 to 1.36 Nm]

### Material Specifications

| Description  | Material | Plating               |
|--------------|----------|-----------------------|
| Contact      | Brass    | Gold<br>50 μinch      |
| Insulation   | Teflon   |                       |
| Body         | Brass    | Tri-Metal<br>80 μinch |
| Coupling Nut | Brass    | Tri-Metal<br>80 μinch |

### Environmental Specifications

#### Temperature

Operating Range -40 to +125 deg C  
Shock MIL-STD 202G, Meth. 213, Cond. I  
Vibration MIL-STD 202G, Meth. 204, Cond. B  
Thermal Shock MIL-STD 202G, Meth. 107, Cond. B

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

### Plotted and Other Data

Notes:

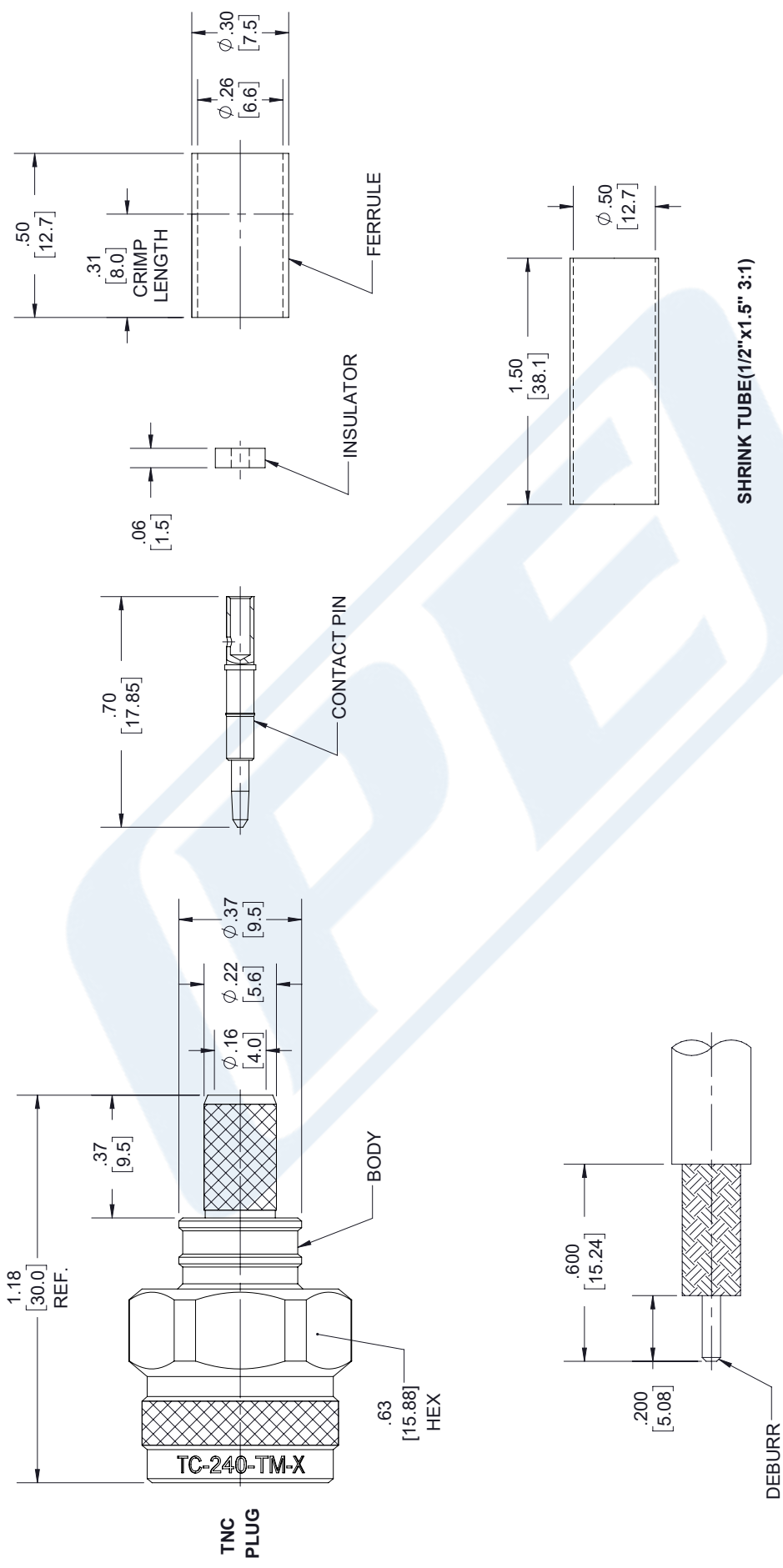
TNC Male Connector Crimp/Solder Attachment for LMR-240, PE-C240 from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [TNC Male Connector Crimp/Solder Attachment for LMR-240, PE-C240 TC-240-TM-X](#)

URL: <https://www.pasternack.com/tnc-male-lmr-240-pe-c240-connector-tc-240-tm-x-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.

| REVISIONS |                          |          |          |
|-----------|--------------------------|----------|----------|
| REV.      | DESCRIPTION              | DATE     | APPROVED |
| A         | PCR TC-240-TM-X 20200622 | 06/30/20 | SRAUTUS  |



RECOMMENDED CABLE STRIPPING DIMENSIONS

CABLE ATTACHMENT:  
 INNER: SOLDER.  
 OUTER: CRIMP.

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS

**PE PASTERNAK**  
 an INFINITE 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  
 Website: www.pasternack.com  
 E-mail: sales@pasternack.com

THE INFORMATION AND DESIGN ARE PROPERTY OF PASTERNAK CORPORATION ALL RIGHTS RESERVED.  
 SHEET 1 OF 1  
 SCALE N/A

THIRD-ANGLE PROJECTION  


|      |           |          |             |
|------|-----------|----------|-------------|
| SIZE | CAGE CODE | DRAWN BY | ITEM NO.    |
| A    | 53919     | SLI      | TC-240-TM-X |

THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.



## LMR-240-FR Fire Rated version of the 240 series Low Loss Coax

### RF Cables Technical Data Sheet


**LMR-240-FR**

## Times Microwave Systems Coax Cable Specification

### Configuration

- Low Loss, Outdoor Flexible Cable
- 2 Shield(s)

### Features

- CMR Riser Rated Coax
- Non-Halogen, Low Smoke FRPE Jacket
- Max Operating Frequency of 5.8 GHz
- Phase Velocity 83% VoP
- Max Operating Temperature +85°C
- Min Install Bend Radius of 0.75 inches

### Applications

- In-Building Riser Runs
- Short Antenna Installs
- RF Test Systems
- General Purpose RF Interconnect
- Laboratory Applications

### Description

LMR-240-FR Fire Rated version of the 240 series Low Loss Coax from Times Microwave is part of the large product offering by Pasternack of radio frequency coaxial cable types specifically stocked to be ready for same-day shipment. Pasternack LMR-240-FR coax cable is manufactured in a flexible design and has a 50 Ohm impedance. This low loss and CMR riser rated 50 Ohm coax cable LMR-240-FR is constructed with a 0.240 inch diameter and Black FRPE jacket.

LMR-240-FR flexible 50 Ohm coax cable with FRPE jacket is rated for a 5.8 GHz maximum operating frequency. This 50 Ohm 0.240 inch diameter and low loss fire rated coax cable is built with an aluminum double shield count and RF shielding of 90 dB. Times Microwave LMR-240-FR FRPE coax is constructed with Foam PE dielectric and a maximum operating temperature of 85 degrees C. Pasternack's offering of LMR-240-FR coax cable provides specs for this wire on its RF coax cable LMR-240-FR datasheet.

LMR-240-FR cable is part of more than one million RF, microwave parts in stock at Pasternack. This Times Microwave low loss flexible LMR-240-FR coax cable is ready to buy and can be shipped worldwide. Pasternack also maintains a wide selection of other radio frequency coaxial cable types that ship same-day from our warehouse as with the rest of our other RF/microwave components.

\* LMR™ is a trademark of Times Microwave Systems.

### Electrical Specifications

| Description                          | Minimum | Typical   | Maximum | Units      |
|--------------------------------------|---------|-----------|---------|------------|
| Frequency Range                      | DC      |           | 5.8     | GHz        |
| Impedance                            |         | 50        |         | Ohms       |
| Velocity of Propagation              |         | 83        |         | %          |
| Time Delay                           |         | 1.21 3.97 |         | ns/ft ns/m |
| Shielding Effectiveness              | 90      |           |         | dB         |
| Dielectric Withstanding Voltage (DC) |         |           | 1,500   | Vdc        |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [LMR-240-FR Fire Rated version of the 240 series Low Loss Coax LMR-240-FR](#)



## LMR-240-FR Fire Rated version of the 240 series Low Loss Coax

### RF Cables Technical Data Sheet



LMR-240-FR

|                               |             |              |
|-------------------------------|-------------|--------------|
| Jacket Spark                  | 5,000       | Vrms         |
| Inner Conductor DC Resistance | 3.2         | Ohms/1000ft  |
| Outer Conductor DC Resistance | 3.89        | Ohms/1000ft  |
| Nominal Capacitance           | 24.2 [79.4] | pF/ft [pF/m] |
| Nominal Inductance            | 0.06 [0.2]  | uH/ft [uH/m] |
| Input Power (Peak)            | 5.6         | kWatts       |

#### Performance by Frequency Band

| Description           | F1    | F2   | F3    | F4    | F5    | Units    |
|-----------------------|-------|------|-------|-------|-------|----------|
| Frequency             | 50    | 150  | 220   | 450   | 900   | MHz      |
| Attenuation, Typ      | 1.7   | 3    | 3.7   | 5.3   | 7.6   | dB/100ft |
|                       | 5.58  | 9.84 | 12.14 | 17.39 | 24.93 | dB/100m  |
| Input Power (CW), Max | 1,150 | 660  | 540   | 380   | 260   | Watts    |

| Description           | F6    | F7    | F8    | F9    | F10   | Units    |
|-----------------------|-------|-------|-------|-------|-------|----------|
| Frequency             | 1.5   | 1.8   | 2     | 2.5   | 5.8   | GHz      |
| Attenuation, Typ      | 9.9   | 10.9  | 11.5  | 12.9  | 20.4  | dB/100ft |
|                       | 32.48 | 35.76 | 37.73 | 42.32 | 66.93 | dB/100m  |
| Input Power (CW), Max | 200   | 180   | 170   | 150   | 100   | Watts    |

#### Mechanical Specifications

|                                 |                        |
|---------------------------------|------------------------|
| Diameter                        | 0.24 in 6.1 mm         |
| Min. Bend Radius (Installation) | 0.75 in [19.05 mm]     |
| Min. Bend Radius (Repeated)     | 2.5 in [63.5 mm]       |
| Bending Moment                  | 0.25 lbs-ft [0.34 N-m] |
| Tensile Strength                | 80 lbs [36.29 kg]      |
| Flat Plate Crush                | 20 lbs/in [0.36 Kg/mm] |

#### Construction Specifications

| Description     | Material and Plating | Diameter           |
|-----------------|----------------------|--------------------|
| Inner Conductor | Copper, 1 Strand     | 0.056 in [1.42 mm] |
| Conductor Type  | Solid                |                    |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [LMR-240-FR Fire Rated version of the 240 series Low Loss Coax LMR-240-FR](#)



LMR-240-FR Fire Rated version of the 240 series Low Loss Coax

RF Cables  
Technical Data Sheet



LMR-240-FR

|               |               |                   |
|---------------|---------------|-------------------|
| Dielectric    | Foam PE       | 0.15 in [3.81 mm] |
| First Shield  | Aluminum Tape | [ ]               |
| Second Shield | Tinned Copper | [ ]               |
| Jacket        | FRPE, Black   | 0.24 in [6.1 mm]  |

**Environmental Specifications**

**Temperature**

|                    |                  |
|--------------------|------------------|
| Operating Range    | -40 to +85 deg C |
| Installation Range | -40 to +85 deg C |
| Storage Range      | -70 to +85 deg C |

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

**Plotted and Other Data**

Notes:

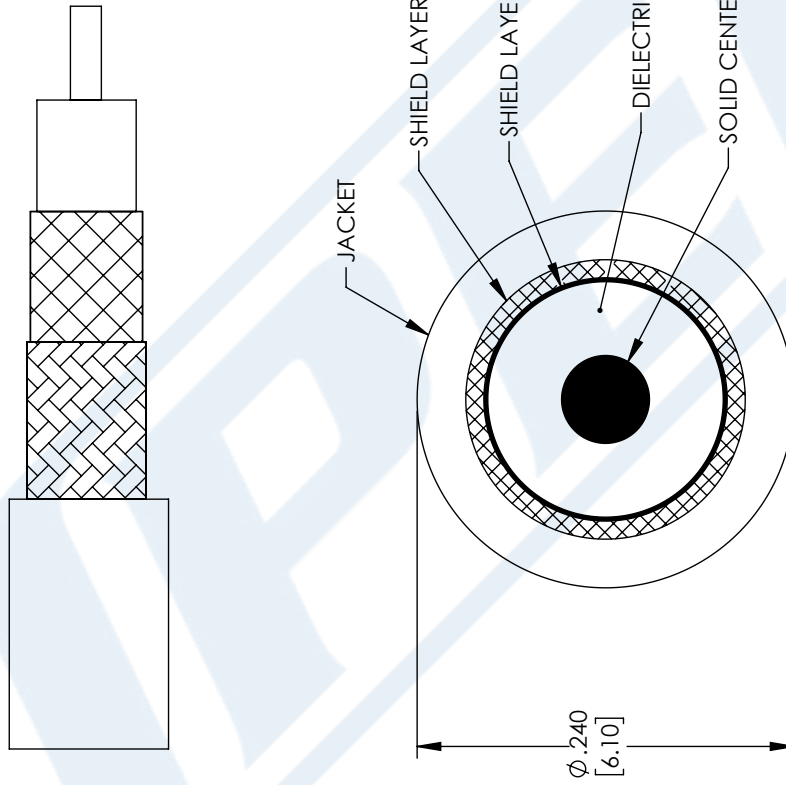
LMR-240-FR Fire Rated version of the 240 series Low Loss Coax from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [LMR-240-FR Fire Rated version of the 240 series Low Loss Coax LMR-240-FR](#)

URL: <https://www.pasternack.com/low-loss-flexible-lmr-240-fr-frpe-jacket-aluminum-tape-over-tinned-copper-outer-conductor-double-shielded-lmr-240-fr-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.

| REVISIONS |                 |            |
|-----------|-----------------|------------|
| REV.      | DESCRIPTION     | DATE       |
| A         | INITIAL RELEASE | 06-04-2021 |
|           |                 | APPROVED   |
|           |                 | SELLIS     |



UNLESS OTHERWISE SPECIFIED  
 LEADING DIMENSIONS ARE INCHES  
 DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:  
 .X = ±.2 [ .008] FRACTIONS ± 1/32  
 .XX = ±.02 [ .51] ANGLES ± 1°  
 .XXX = ±.005 [ .13] CABLE LENGTH (L): TOLERANCES:  
 L ≤ 12 [305] = +1 [25] / -0  
 12 [305] < L ≤ 60 [1524] = +2 [51] / -0  
 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0  
 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0  
 300 [7620] < L = +5% / -0

ALL DIMENSIONS SHOWN  
 ARE FOR REFERENCE ONLY.

**PE PASTERNAK**  
 an INFINITI 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  
 Website: www.pasternack.com  
 E-mail: sales@pasternack.com

ITEM NO. LMR-240-FR  
 DRAWN BY MVEERAPPAN  
 CAGE CODE 53919

THIRD-ANGLE PROJECTION

THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION ALL RIGHTS RESERVED.

SHEET 1 OF 1

SCALE N/A

REV A