

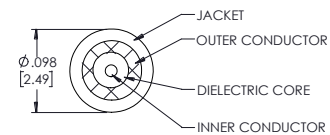
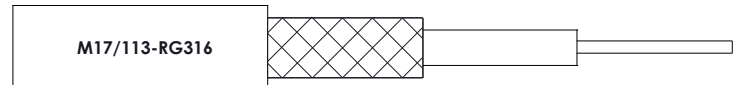
MIL Size 16 Contact Socket to MIL Size  
16 Contact Socket Cable, D38999 Series I, III, IV,  
Using M17/113-RG316 Coax with HeatShrink,

## PE3M0407



### Configuration

- Connector 1: Push-on M39029 Socket
- Connector 2: Push-on M39029 Socket
- Cable Type: M17/113-RG316
- Coax Flex Type: Flexible



### Features

- Max Frequency: 1 GHz
- Can be installed in all D38999 size inserts
- Lot traceability
- High speed RF cable assembly

### Applications

- Military and Aerospace
- Avionics
- Industrial Automation

### Description

The PE3M0407 from Pasternack is a D38999 cable assembly that is built with a size M39029 Socket contact on one end and a M39029 Socket connector on the other. Pasternack MIL-DTL-38999 (also known as D38999 or 38999) coaxial cable assembly products are used in applications requiring high quality such as laboratory RF test and measurement, rugged and designed for defense/military, production environments, general use, etc. This M39029 to M39029 cable assembly is a part of one of the largest selections of same-day ship coaxial cables for RF, microwave, and millimeter wave interconnect solutions. This high frequency D38999 cable assembly operates at a maximum frequency of 0.7 GHz.

This radio frequency cable assembly can withstand temperatures ranging from -65 to 125 degrees C. Our M39029 Socket to M39029 Socket cable has a maximum VSWR of 1.4:1. This flexible RF cable assembly with a 0.5-inch diameter has steel as the cable's inner conducting material and PTFE dielectric type. The PE3M0407 in-series RF cable has 0.5 inches of repeated minimum bend radius.

M39029 Socket to M39029 Socket cable assembly is built with M17/113-RG316, which is a flexible coax type. The Pasternack PE3M0407 flexible cable assembly has a 50 Ohm impedance and is single shielded. Additional dimensions, specifications, and CAD drawings for this M39029 to M39029 RF cables are available on our downloadable PDF datasheet.

M39029 Socket to M39029 Socket cable assembly is just one of more than one million in-stock RF products available. Pasternack is where to buy high quality custom RF cable assembly products for rugged and MIL-STD designed military/defense, aerospace, outdoor and harsh environment, microwave and millimeter wave radio transmitter receiver, component inter-connection and more for RF test & measurement labs, telecom, phase stable, phase and delay matching, and other radio frequency applications can be manufactured. Variations of M39029 cable assemblies can also be built and will ship on the same day as well, search this website or contact us for assistance. For further information on similar products, our expert technical support and trained sales team can get you the ideal M39029 to M39029 RF cable assembly as per your requirements.

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## PE3M0407

### Referenced Specifications

|                |   |
|----------------|---|
| IPC J-STD-001  | Requirements for Soldered Electrical and Electronic Assemblies  |
| IPC J-STD-006  | Requirements for Electronic Grade Solder Alloys and Fluxed and Non-Fluxed Solid Solders for Electronic Soldering Applications   |
| IPC/WHMA-A-620 | Requirements and Acceptance for Cable and Wire Harness Assemblies   |
| MIL-DTL-17     | Cables, Radio Frequency, Flexible and Semirigid, General Specification for  |
| MIL-PRF-39012  | Connectors, Coaxial, Radio Frequency, General Specification for   |
| MIL-STD-348    | Radio Frequency Connector Interfaces for MIL-DTL-3643, MIL-DTL-3650, MIL-DTL-3655, MIL-DTL-25516, MIL-PRF-31031, MIL-PRF-39012, MIL-PRF-49142, MIL-PRF-55339, MIL-DTL-83517 |
| SAE AS22520    | Crimping Tools, Wire Termination, General Specification For   |
| SAE AS23053    | Insulation Sleeving, Electrical, Heat Shrinkable, General Specifications For  |
| SAE AS5942     | Marking of Electrical Insulating Materials  |
| IPC J-STD-001  | Requirements for Soldered Electrical and Electronic Assemblies  |

### Material Specifications

| Component     | Specification                                 |
|---------------|---|
| Cable         | M17/113-RG316 in accordance with MIL-DTL-17   |
| Connector 1   | in accordance with MIL-DTL-38999              |
| Connector 2   | in accordance with MIL-DTL-38999              |
| Heat Shrink 1 | M23053/5-104-0 in accordance with SAE AS23053 |
| Heat Shrink 2 | M23053/5-104-0 in accordance with SAE AS23053 |
| Solder        | SAC305 in accordance with J-STD-006           |

### Electrical Specifications

| Description                          | Minimum | Typical     | Maximum | Units           |
|--------------------------------------|---------|-------------|---------|-----------------|
| Frequency Range                      | DC      |             | 700     | MHz             |
| VSWR                                 |         |             | 1.4:1   |                 |
| Velocity of Propagation              |         | 69.5        |         | %               |
| Capacitance                          |         | 32 [104.99] |         | pF/ft [pF/m]    |
| DC Resistance Inner Conductor        |         | 0.84 [2.76] |         | Ω/1000ft [Ω/Km] |
| Dielectric Withstanding Voltage (AC) |         |             | 2,000   | Vrms            |
| Jacket Spark                         |         |             | 2,000   | Vrms            |

### Specifications by Frequency

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## PE3M0407

| Part Number | Length                   | Description           | F1   | F2   | F3   | F4   | F5    | Units | Weight (lbs) |
|-------------|--------------------------|-----------------------|------|------|------|------|-------|-------|--------------|
|             |                          | Frequency             | 50   | 100  | 250  | 500  | 700   | MHz   |              |
| PE3M0407    | Custom Lengths Available | Insertion Loss (Typ.) | 0.08 | 0.11 | 0.16 | 0.24 | 0.295 | dB/ft |              |
|             |                          |                       | 0.25 | 0.37 | 0.53 | 0.79 | 0.97  | dB/m  |              |
| PE3M0407-6  | 6 inch                   | Insertion Loss (Typ.) | 0.24 | 0.26 | 0.28 | 0.32 | 0.35  | dB    | 0.0225       |
| PE3M0407-12 | 12 inch                  | Insertion Loss (Typ.) | 0.28 | 0.31 | 0.36 | 0.44 | 0.5   | dB    | 0.025        |
| PE3M0407-24 | 24 inch                  | Insertion Loss (Typ.) | 0.35 | 0.42 | 0.52 | 0.68 | 0.79  | dB    | 0.03         |
| PE3M0407-36 | 36 inch                  | Insertion Loss (Typ.) | 0.43 | 0.53 | 0.68 | 0.92 | 1.09  | dB    | 0.035        |
| PE3M0407-48 | 48 inch                  | Insertion Loss (Typ.) | 0.5  | 0.64 | 0.84 | 1.16 | 1.38  | dB    | 0.04         |
| PE3M0407-60 | 60 inch                  | Insertion Loss (Typ.) | 0.58 | 0.75 | 1    | 1.39 | 1.68  | dB    | 0.045        |

The insertion loss data for the base model does not include loss due to the connectors. Each length includes insertion loss due to the connectors.

Loss due to Connector 1: 0.1 dB  
 Loss due to Connector 2: 0.1 dB  
 Base Weight: 0.025 pounds  
 Additional Weight per Foot: 0.005 pounds

Electrical Specification Notes:  
 Values at 25°C, sea level.

## Mechanical Specifications

### Cable Assembly

| Description                  | Minimum | Typical       | Maximum | Units   |
|------------------------------|---------|---------------|---------|---------|
| Length*                      |         |               | 0 [0]   | in [mm] |
| Cable Outer Diameter         |         | 0.98          |         | in      |
| Weight                       |         | 0.025 [11.34] |         | lbs [g] |
| Repeated Minimum Bend Radius | 0.5     |               |         | in      |

### Cable Characteristics

| Description                          | Specification        |
|--------------------------------------|----------------------|
| Cable Type                           | M17/113-RG316        |
| Impedance                            | 50 Ohms              |
| Inner Conductor Type                 | Stranded             |
| Inner Conductor Material and Plating | Steel, Silver        |
| Dielectric Type                      | PTFE                 |
| Number of Shields                    | 1                    |
| Shield Layer 1                       | Silver Coated Copper |
| Jacket Material                      | FEP                  |

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### Connector Characteristics

| Description                          | Connector 1            | Connector 2            |
|--------------------------------------|------------------------|------------------------|
| Type                                 | M39029 Socket          | M39029 Socket          |
| Specification                        | MIL-DTL-38999          | MIL-DTL-38999          |
| Impedance                            | 50 Ohms                | 50 Ohms                |
| Configuration                        | Straight               | Straight               |
| Connection Method                    | Push-on                | Push-on                |
| Contact Size                         | 16                     | 16                     |
| Mating Cycles                        | 500                    | 500                    |
| Contact Material and Plating         | Beryllium Copper, Gold | Beryllium Copper, Gold |
| Dielectric Type                      | PTFE                   | PTFE                   |
| Outer Conductor Material and Plating | Brass, Gold            | Brass, Gold            |
| Body Material and Plating            | Brass, Gold            | Brass, Gold            |

Mechanical Specification Notes:

### Environmental Specifications

| Description                 | Specification     |
|-----------------------------|-------------------|
| Temperature Operating Range | -65 to +125 deg C |

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

### Plotted and Other Data

Notes:

Values at 25°C, sea level.

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## PE3M0407

### How to Order

Part Number Configuration:

**PE3M0407**

- **xx**

**uu**

Unit of Measure:  
cm = Centimeters  
<blank> = Inches  
Length  
Base Number

Example: PE3M0407-12 = 12 inches long cable  
PE3M0407-100cm = 100 cm long cable

Cable Assembly Length Tolerances:

| Imperial English    |                 | Metric              |                  |
|---------------------|-----------------|---------------------|------------------|
| "L" ≤ 1 ft          | +0.5 in / -0 in | "L" ≤ 0.3 m         | +12.5 mm / -0 mm |
| 1 ft < "L" ≤ 5 ft   | +1 in / -0 in   | 0.3 m < "L" ≤ 1.5 m | +25 mm / -0 mm   |
| 5 ft < "L" ≤ 10 ft  | +2 in / -0 in   | 1.5 m < "L" ≤ 3 m   | +50 mm / -0 mm   |
| 10 ft < "L" ≤ 25 ft | +3 in / -0 in   | 3 m < "L" ≤ 7.5 m   | +75 mm / -0 mm   |
| 25 ft < "L"         | +2%"L" / -0%"L" | 7.5 m < "L"         | +2%"L" / -0%"L"  |

\* Cable Length = "L"

MIL Size 16 Contact Socket to MIL Size 16 Contact Socket Cable, D38999 Series I, III, IV, Using M17/113-RG316 Coax with HeatShrink, 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: [MIL Size 16 Contact Socket to MIL Size 16 Contact Socket Cable, D38999 Series I, III, IV, Using M17/113-RG316 Coax with HeatShrink, PE3M0407](#)

URL: <https://www.pasternack.com/mil-16-contact-socket-to-mil-16-contact-socket-cable-d38999-series-i-iii-iv-using-m17-113-rg316-coax-with-heatshrink-pe3m0407-p.aspx>

The information contained within 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 Enterprises reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack Enterprises does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack Enterprises does not assume liability arising out of the use of any part or document.

PE3M0407 CAD Drawing

MIL Size 16 Contact Socket to MIL Size 16 Contact Socket Cable, D38999 Series I, III, IV, Using M17/113-RG316 Coax with HeatShrink,

