

MIL-DTL-17 SMA Male to SMA Male Right Angle Cable 30 Inch Length Using M17/183-00001 Coax

PE3M0120-30



Configuration

- Connector 1: M39012/55-3029 (SMA Male)
- Connector 2: M39012/56-3129 (SMA Male Right Angle)
- Cable: M17/183-00001

Features

- Max Frequency 1 GHz
- 65.9% Phase Velocity
- Polyolefin Jacket
- Lot Traceability
- J-STD-Soldering
- Qualified (QPL) cable and connectors
- RF Test Plots
- Test Report
- In stock and ready to ship

Applications

- General Purpose
- Laboratory Use
- Hi-Rel
- MIL-DTL-17 Requirements
- Avionics
- IFF
- SATCOM
- ECM

Description

Pasternack's MIL-DTL-17 cable assemblies are part of our full line of reliable RF components available for same-day shipping. These commercial-off-the-shelf (COTS), military grade cable assemblies are designed and processed with high reliability in mind. MIL-PRF-39012 connectors and MIL-C-17 coaxial cable are assembled using J-STD soldering processes and WHMA-A-620 workmanship criteria. The combination of materials, processing and acceptance testing work together to create a dependable cable assembly for applications where performance over time is important or the cost of failure is high. Each finished MIL-DTL-17 cable assembly is traceable to its component lots and a test report is available for every lot produced.

Our MIL-DTL-17 cable assembly datasheet specifications and drawing with dimensions are shown below in this PDF. Pasternack's broad catalog of RF, microwave and millimeter wave cable assemblies allow designers to configure and customize their signal connections however they like. Whether the need is to provide reliable mil-spec connections or fielding dependable RF cable assemblies, Pasternack has the right cable assemblies for the job. Pasternack can also expertly build your custom cable assemblies for you and ship same day.

| | |
|----------------|---|
| 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-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... |
| MIL-PRF-39012 | Connectors, Coaxial, Radio Frequency, General Specification for |
| 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 |
| SAE AS5942 | Marking of Electrical Insulating Materials |
| SAE AS23053 | Insulation Sleeving, Electrical, Heat Shrinkable, General Specifications For |
| SAE AS22520 | Crimping Tools, Wire Termination, General Specification For |

Material Specifications

| Component | Specification |
|-------------|---|
| Cable | M17/183-00001 in accordance with MIL-DTL-17 |
| Connector 1 | M39012/55-3029 in accordance with MIL-PRF-39012 |
| Connector 2 | M39012/56-3129 in accordance with MIL-PRF-39012 |

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Material Specifications

| Component | Specification |
|---------------|---|
| Heat Shrink 1 | M23053/5-106-0 in accordance with SAE AS23053 |
| Heat Shrink 2 | M23053/5-106-0 in accordance with SAE AS23053 |
| Solder | SN63 in accordance with J-STD-006 |

Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|--------------------------------------|---------|---------------|---------|-----------------|
| Frequency Range | DC | | 1,000 | MHz |
| VSWR | | | 1.4:1 | |
| Velocity of Propagation | | 65.9 | | % |
| Capacitance | | 32.2 [105.64] | | pF/ft [pF/m] |
| DC Resistance Inner Conductor | | 0.97 [3.18] | | Ω/1000ft [Ω/Km] |
| Dielectric Withstanding Voltage (AC) | | | 1,000 | Vrms |

Specifications by Frequency

| Description | F1 | F2 | F3 | F4 | F5 | Units |
|-----------------------|------|------|------|-------|----|-------|
| Frequency | 50 | 100 | 400 | 1,000 | | MHz |
| Insertion Loss (Max.) | 0.15 | 0.23 | 0.56 | 0.91 | | dB |

Electrical Specification Notes:

The Insertion Loss data above is based on the performance specifications of the coax cable used in this assembly. The Insertion Loss includes an estimated insertion loss of $0.06 * \text{SQRT}(\text{GHz})$ dB maximum for the SMA Male connector and $0.15 * \text{SQRT}(\text{GHz})$ dB for the SMA Male right angle connector.

Mechanical Specifications

Cable Assembly

| Description | Minimum | Typical | Maximum | Units |
|----------------------|----------|--------------|--------------|---------|
| Length* | 30 [762] | 31 [787.4] | 30 [762] | in [mm] |
| Cable Outer Diameter | 0.191 | 0.195 | 0.199 | in |
| Weight | | 0.09 [40.82] | 0.13 [58.97] | lbs [g] |

Cable Characteristics

| Description | Specification |
|--------------------------------------|---------------|
| Cable Type | M17/183-00001 |
| Impedance | 50 Ohms |
| Inner Conductor Type | Stranded |
| Inner Conductor Material and Plating | Tinned Copper |

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Cable Characteristics

| Description | Specification |
|--------------------------|-------------------|
| Dielectric Type | PE |
| Number of Shields | 1 |
| Shield Layer 1 | Tinned Copper |
| Outer Conductor Diameter | 0.15 in [3.81 mm] |
| Jacket Material | Polyolefin |

Connector Characteristics

| Description | Connector 1 | Connector 2 |
|------------------------------------|-------------------|----------------------|
| Type | SMA Male | SMA Male Right Angle |
| Specification | MIL-PRF-39012 | MIL-PRF-39012 |
| Impedance | 50 Ohms | 50 Ohms |
| Configuration | Straight | Right Angle |
| Contact Material and Plating | Brass, Gold | Brass, Gold |
| Contact Plating Specification | ASTM B488 | ASTM B488 |
| Dielectric Type | Teflon | Teflon |
| Body Material and Plating | Steel, Passivated | Steel, Gold |
| Body Plating Specification | QQ-P-35 | ASTM B488 |
| Coupling Nut Material and Plating | Steel, Passivated | Steel, Passivated |
| Coupling Nut Plating Specification | QQ-P-35 | AMS-QQ-P-35 |
| Seal Gasket Material | Silicone Rubber | Silicone Rubber |
| Contact Gage Specification | 0.000 in min | 0.000 in min |
| Insulator Gage Specification | 0.000 in min | 0.000 in min |

Mechanical Specification Notes:

Environmental Specifications

| Description | Specification |
|-----------------------------|------------------|
| Temperature Operating Range | -30 to +85 deg C |

Compliance Certifications (see product page for current document)

Process Specifications

| Process | Specification |
|-----------|---|
| Soldering | in accordance with J-STD-001, class 3 |
| Crimping | dies in accordance with SAE AS22520 |
| Marking | shall meet the adherence requirements of SAE AS5942 |

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Process Specifications

| Process | Specification |
|-------------|---|
| Workmanship | shall be in accordance with IPC/WHMA-A-620, class 3 |

Tests and Inspections

| Description | Sampling |
|---|--------------|
| Connector Gaging (pin and insulator position) | 100% |
| Insertion Loss | 100% |
| VSWR | 100% |
| Dielectric Withstanding Voltage (DWV) | 100% |
| Visual - workmanship, configuration and marking | 100% |
| Length | C=0, 1.5 AQL |
| Mass | C=0, 1.5 AQL |

Plotted and Other Data

Notes:

Values at 25°C, sea level.

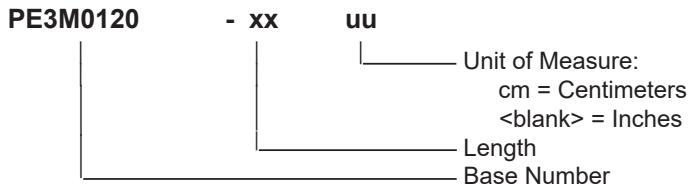
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How to Order

Part Number Configuration:



Example: PE3M0120-12 = 12 inches long cable
PE3M0120-100cm = 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-DTL-17 SMA Male to SMA Male Right Angle Cable 30 Inch Length Using M17/183-00001 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: [MIL-DTL-17 SMA Male to SMA Male Right Angle Cable 30 Inch Length Using M17/183-00001 Coax PE3M0120-30](#)

URL: <https://www.pasternack.com/sma-male-sma-male-m17-183-00001-cable-assembly-pe3m0120-30-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.

PE3M0120-30 CAD Drawing

MIL-DTL-17 SMA Male to SMA Male Right Angle Cable 30 Inch Length Using M17/183-00001 Coax

