

## MIL-DTL-17 SMA Male to SMA Male Right Angle Cable 12 Inch Length Using M17/113-RG316 Coax



### RF Cable Assemblies Technical Data Sheet

**PE3M0091-12**

#### Configuration

- Connector 1: M39012/55-3026 (SMA Male)
- Connector 2: M39012/56-3107 (SMA Male Right Angle)
- Cable: M17/113-RG316

#### Features

- Max Frequency 3 GHz
- 69.5% Phase Velocity
- FEP 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	• MIL-DTL-17 Requirements	• SATCOM
• Laboratory Use	• Avionics	• ECM
• Hi-Rel	• IFF	

#### 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.

#### Referenced Specifications

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

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 12 Inch Length Using M17/113-RG316 Coax PE3M0091-12](#)

**MIL-DTL-17 SMA Male to SMA Male Right Angle Cable  
12 Inch Length Using M17/113-RG316 Coax**

**RF Cable Assemblies Technical Data Sheet**
**PE3M0091-12**

SAE AS22520

Crimping Tools, Wire Termination, General Specification For

**Material Specifications**

Component	Specification
Cable	M17/113-RG316 in accordance with MIL-DTL-17
Connector 1	M39012/55-3026 in accordance with MIL-PRF-39012
Connector 2	M39012/56-3107 in accordance with MIL-PRF-39012
Heat Shrink 1	M23053/5-104-0 in accordance with SAE AS23053
Heat Shrink 2	M23053/5-105-0 in accordance with SAE AS23053
Solder	SN63 in accordance with J-STD-006

**Electrical Specifications**

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		3	GHz
VSWR			1.6:1	
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)			750	Vrms

**Specifications by Frequency**

Description	F1	F2	F3	F4	F5	Units
Frequency	0.05	0.1	0.4	1	3	GHz
Insertion Loss (Max.)	0.38	0.41	0.51	0.68	0.88	

**Electrical Specification Notes:**

The Insertion Loss data above is based on the performance specifications of the coax and connectors used in this assembly. The Insertion Loss includes an estimated insertion loss of 0.1 dB for the straight connector and 0.2 dB for the right angle connector.

**Mechanical Specifications**
**Cable Assembly**

Description	Minimum	Typical	Maximum	Units
Length*	12 [304.8]	12.5 [317.5]	12 [304.8]	in [mm]

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 12 Inch Length Using M17/113-RG316 Coax PE3M0091-12](#)

**MIL-DTL-17 SMA Male to SMA Male Right Angle Cable  
12 Inch Length Using M17/113-RG316 Coax**

**RF Cable Assemblies Technical Data Sheet**
**PE3M0091-12**

Cable Outer Diameter	0.094	0.098	0.102	in
Weight		0.047 [21.32]	0.06 [27.22]	lbs [g]

**Cable Characteristics**

Description	Specification
Cable Type	M17/113-RG316
Impedance	50 Ohms
Inner Conductor Type	Stranded
Inner Conductor Material and Plating	Copper Clad Steel, Silver
Dielectric Type	PTFE
Number of Shields	1
Shield Layer 1	Silver Clad Copper
Outer Conductor Diameter	0.081 in [2.06 mm]
Jacket Material	FEP

**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
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:**

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 12 Inch Length Using M17/113-RG316 Coax PE3M0091-12](#)

**MIL-DTL-17 SMA Male to SMA Male Right Angle Cable  
12 Inch Length Using M17/113-RG316 Coax**

**RF Cable Assemblies Technical Data Sheet**
**PE3M0091-12**
**Environmental Specifications**

Description	Specification
Temperature Operating Range	-55 to +165 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
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.

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 12 Inch Length Using M17/113-RG316 Coax PE3M0091-12](#)

**MIL-DTL-17 SMA Male to SMA Male Right Angle Cable  
12 Inch Length Using M17/113-RG316 Coax**

**RF Cable Assemblies Technical Data Sheet**
**PE3M0091-12**
**How to Order**

Part Number Configuration:

**PE3M0091**
**- xx uu**

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

Example: PE3M0091-12 = 12 inches long cable  
PE3M0091-100cm = 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"

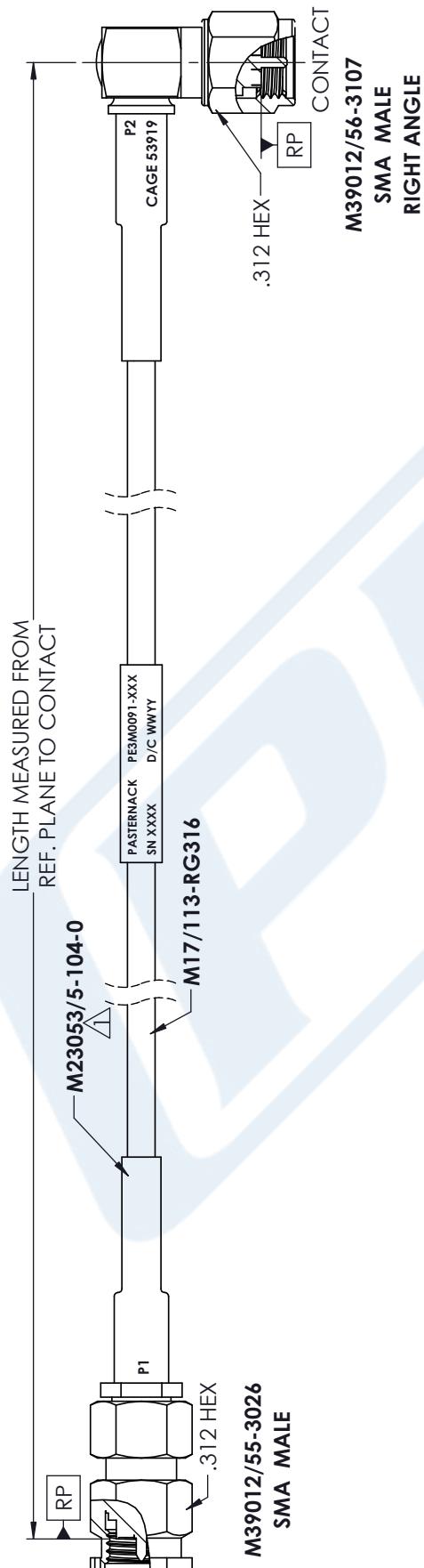
MIL-DTL-17 SMA Male to SMA Male Right Angle Cable 12 Inch Length Using M17/113-RG316 Coax from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the 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 12 Inch Length Using M17/113-RG316 Coax PE3M0091-12](#)

URL: <https://www.pasternack.com/sma-male-sma-male-m17-113-rg316-cable-assembly-pe3m0091-12-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.

**PE3M0091-12 CAD Drawing**  
**MIL-DTL-17 SMA Male to SMA Male Right Angle Cable**  
**12 Inch Length Using M17/113-RG316 Coax**



STANDARD TOLERANCES	
X	±0.2
.XX	±0.01
.XXX	±0.005

\*STANDARD TOLERANCES APPLY  
 ONLY TO DIMENSIONS IN INCHES

NOTES:  
 1. BLACK HEAT SHRINK WITH WHITE  
 MARKINGS 3 PLACES.

**PE PASTERACK®**  
THE ENGINEER'S RF SOURCE

Pasterack Enterprises, Inc.  
 P.O. Box 16759 | Irvine | CA | 92623

Phone: (949) 261-1920 | Fax: (949) 261-7451  
 E-Mail: sales@pasterack.com  
 Website: www.pasterack.com

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].

SIZE A	SIZE B	SIZE C
CAD FILE	09/10/18	SCALE N/A
PE3M0091	CAGE CODE 53919	PASTERACK