

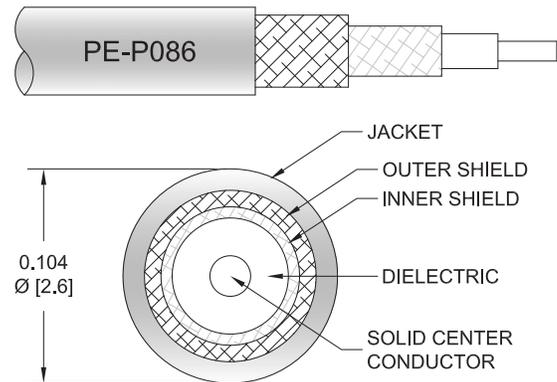
## MIL Size 12 D38999 Contact Pin to MIL Size 12 D38999 Contact Pin Cable Using PE-P086 Coax with HeatShrink, LF Solder



### PE3M0378

#### Configuration

- Connector 1: Push-on M39029 Pin
- Connector 2: Push-on M39029 Pin
- Cable Type: PE-P086
- Coax Flex Type: Flexible



#### Features

- Max Frequency: 3 GHz
- Can be installed in all D38999 size 12 inserts
- Lot traceability
- High speed RF cable assembly

#### Applications

- Military and Aerospace
- Avionics
- Industrial Automation

#### Description

The PE3M0378 from Pasternack is a D38999 contact cable assembly that is built with a size 12 M39029 pin contact connection on one end and a M39029 pin 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 high frequency D38999 cable assembly operates at a maximum frequency of 3 GHz.

The PE3M0378 RF cable has a FEP jacket of 0.104-inch diameter. This radio frequency cable assembly can withstand temperatures ranging from -65 to 125 degrees C. Our M39029 pin to M39029 pin cable has a maximum VSWR of 1.4:1. This RF cable assembly with a 0.5-inch diameter has copper clad steel as the cable's inner conducting material and PTFE dielectric type. The PE3M0378 between-series RF cable has 0.5 inches of repeated minimum bend radius along with 110 dB of minimum RF shielding.

M39029 pin to M39029 pin cable assembly is built with PE-P086, which is a flexible coax type. The Pasternack PE3M0378 flexible cable assembly has a 50 Ohm impedance and is double shielded. Additional dimensions, specifications, and CAD drawings for this M39029 to M39029 RF cable are available on our downloadable PDF datasheet.

M39029 pin to M39029 pin 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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**PE3M0378**

**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	PE-P086 in accordance with PE-P086 datasheet
Connector 1	in accordance with MIL-DTL-38999
Connector 2	in accordance with MIL-DTL-38999
Heat Shrink 1	M23053/5-105-0 in accordance with SAE AS23053
Heat Shrink 2	M23053/5-105-0 in accordance with SAE AS23053
Solder	SAC305 in accordance with J-STD-006

**Electrical Specifications**

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		3	GHz
VSWR			1.4:1	
Velocity of Propagation		70		%
RF Shielding	110			dB
Capacitance		29.4 [96.46]		pF/ft [pF/m]

**Specifications by Frequency**

MIL Size 12 D38999 Contact Pin to MIL Size 12 D38999 Contact Pin Cable Using PE-P086 Coax with HeatShrink, LF Solder



**PE3M0378**

Part Number	Length	Description	F1	F2	F3	F4	F5	Units	Weight (lbs)
			Frequency		100	250	500	1000	
PE3M0378	Custom Lengths Available	Insertion Loss (Typ.)	0.02	0.05	0.1	0.19	0.324	dB/ft	
			0.07	0.16	0.32	0.63	1.07	dB/m	
PE3M0378-6	6 inch	Insertion Loss (Typ.)	0.21	0.23	0.25	0.3	0.37	dB	0.0265
PE3M0378-12	12 inch	Insertion Loss (Typ.)	0.22	0.25	0.3	0.4	0.53	dB	0.033
PE3M0378-24	24 inch	Insertion Loss (Typ.)	0.24	0.3	0.4	0.59	0.85	dB	0.046
PE3M0378-36	36 inch	Insertion Loss (Typ.)	0.26	0.35	0.49	0.78	1.18	dB	0.059
PE3M0378-48	48 inch	Insertion Loss (Typ.)	0.28	0.4	0.59	0.97	1.5	dB	0.072
PE3M0378-60	60 inch	Insertion Loss (Typ.)	0.3	0.44	0.68	1.16	1.82	dB	0.085

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: 0.033 pounds
- Additional Weight per Foot: 0.013 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		0.104		in
Weight		0.033 [14.97]		lbs [g]
Repeated Minimum Bend Radius	0.5			in

**Cable Characteristics**

Description	Specification
Cable Type	PE-P086
Impedance	50 Ohms
Inner Conductor Type	Solid
Inner Conductor Material and Plating	Copper Clad Steel, Silver
Dielectric Type	PTFE
Number of Shields	2
Shield Layer 1	Silver Plated Copper Tape
Shield Layer 2	Silver Plated Copper Braid
Jacket Material	FEP

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## PE3M0378

### Connector Characteristics

Description	Connector 1	Connector 2
Type	M39029 Pin	M39029 Pin
Specification	MIL-DTL-38999	MIL-DTL-38999
Impedance	50 Ohms	50 Ohms
Configuration	Straight	Straight
Connection Method	Push-on	Push-on
Contact Size	12	12
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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**PE3M0378**

**How to Order**

Part Number Configuration:

**PE3M0378**

- **xx**

**uu**

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

Example: PE3M0378-12 = 12 inches long cable  
PE3M0378-100cm = 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 12 D38999 Contact Pin to MIL Size 12 D38999 Contact Pin Cable Using PE-P086 Coax with HeatShrink, LF Solder 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.

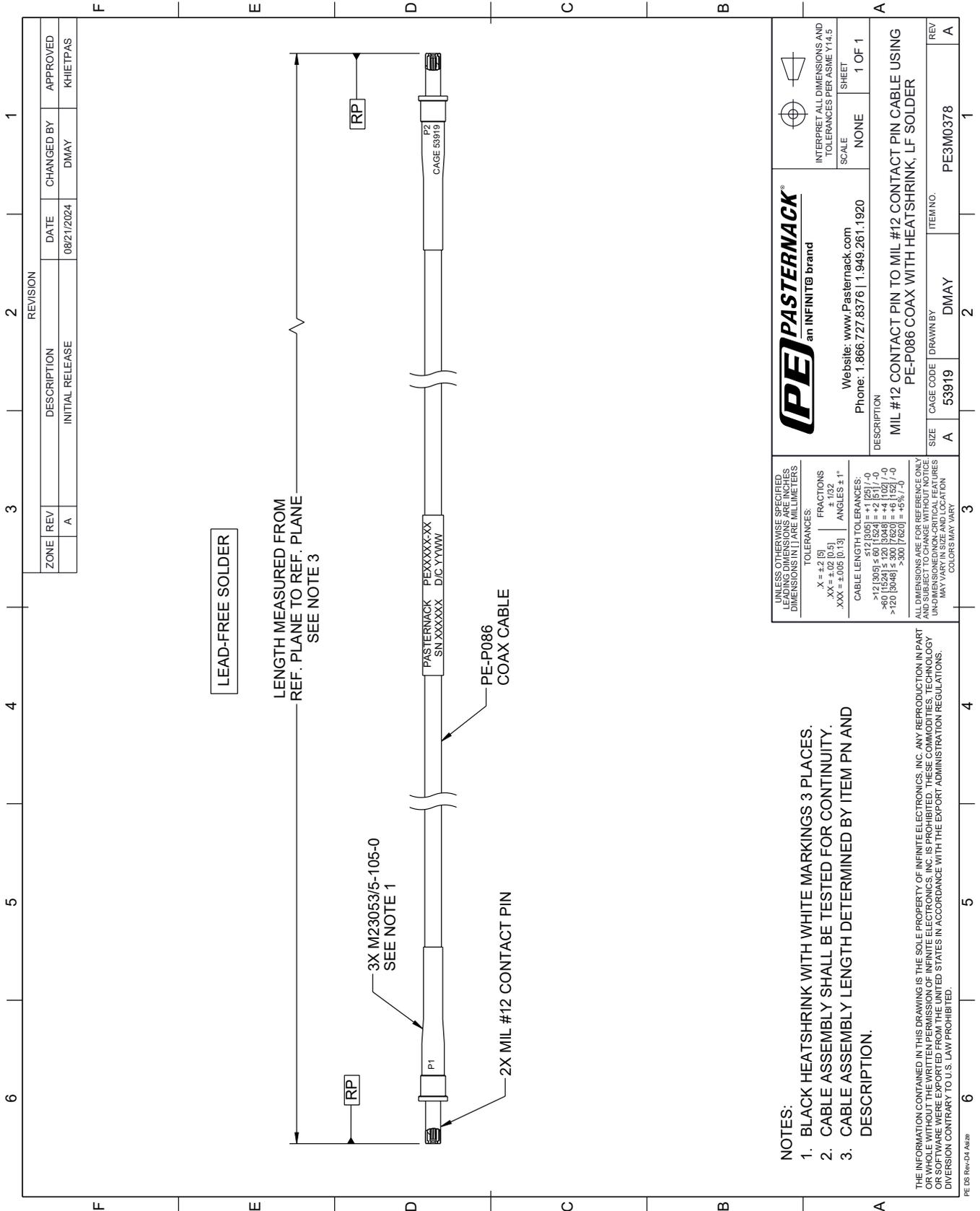
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [MIL Size 12 D38999 Contact Pin to MIL Size 12 D38999 Contact Pin Cable Using PE-P086 Coax with HeatShrink, LF Solder PE3M0378](https://www.pasternack.com/mil-12-contact-pin-to-mil-12-contact-pin-cable-using-pe-p086-coax-with-heatshrink-lf-solder-pe3m0378-p.aspx)

URL: <https://www.pasternack.com/mil-12-contact-pin-to-mil-12-contact-pin-cable-using-pe-p086-coax-with-heatshrink-lf-solder-pe3m0378-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 impliment 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.

# PE3M0378 CAD Drawing

MIL Size 12 D38999 Contact Pin to MIL Size 12 D38999 Contact Pin  
Cable Using PE-P086 Coax with HeatShrink, LF Solder



**(PE) PASTERNAK®**  
an INFINIT® brand

Website: [www.Pasternack.com](http://www.Pasternack.com)  
Phone: 1.866.727.8376 | 1.949.261.1920

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

TOLERANCES:  
 .X = ±.2 [5]  
 .XX = ±.02 [0.5]  
 .XXX = ±.005 [0.13]  
 FRACTIONS ± 1/32  
 ANGLES ± 1°

CABLE LENGTH TOLERANCES:  
 >12 [305] ≤ 60 [1524] = ±.1 [25] / -0  
 >60 [1524] ≤ 120 [3048] = ±.4 [102] / -0  
 >120 [3048] ≤ 300 [7620] = ±.6 [15] / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY. UNDIMENSIONED NON-CRITICAL FEATURES MAY VARY IN SIZE AND LOCATION. COLORS MAY VARY.

INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5

SCALE NONE  
SHEET 1 OF 1

DESCRIPTION  
MIL #12 CONTACT PIN TO MIL #12 CONTACT PIN CABLE USING PE-P086 COAX WITH HEATSHRINK, LF SOLDER

SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	53919	DMAY	PE3M0378

REV A