



## RF Cable Assemblies Technical Data Sheet

ET29146

# Configuration

Connector 1: M39012/02-0503(N Female)
Connector 2: M39012/26-0011(TNC Male)

• Cable: M17/60-ET-RG142

#### Features

- Max Frequency 11 GHz
- 69.5% Phase Velocity
- Double Shielded
- FEP Jacket
- Lot Traceability
- J-STD-Soldering
- Qualified (QPL) cable and connectors
- RF Test Plots
- Test Report
- In stock and ready to ship

MIL-DTL-17 Requirements

# Applications

Hi-Rel

Avionics

• IFF

SATCOM

• ECM

#### Description

Ebeestock'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. Ebeestock'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, Ebeestock has the right cable assemblies for the job. Ebeestock can also expertly build your custom cable assemblies for you and ship same day.

### Referenced Specifications

IPC/WHMA-Ā-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 N Female to TNC Male Cable 200 cm Length Using M17/60-ET-RG142 Coax ET29146





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SAE AS22520

Crimping Tools, Wire Termination, General Specification For

### Material Specifications

Component	Specification
Cable	M17/60-ET-RG142 in accordance with MIL-DTL-17
Connector 1	M39012/02-0503 in accordance with MIL-PRF-39012
Connector 2	M39012/26-0011 in accordance with MIL-PRF-39012
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		11	GHz
VSWR			1.7:1	
Velocity of Propagation		69.5		%
Capacitance		29.3 [96.13]		pF/ft [pF/m]
Dielectric Withstanding Voltage (AC)			1,500	Vrms

## Specifications by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency	0.4	1	3	8	11	GHz
Insertion Loss (Max.)	0.75	1.17	2.13	4.07	5.36	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\*SQRT(GHz) dB maximum for the TNC Male connector and 0.1 dB for the N Female connector.

### Mechanical Specifications

## Cable Assembly

Description	Minimum	Typical	Maximum	Units
Length*	78.7402 [200]	78.7402 [200]	80.7402 [205.08]	in [cm]
Cable Outer Diameter	0.19	0.195	0.2	in

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Weight 0.48 [217.72] lbs [g]

\*Length Tolerances: +0.5, -0 inches for Length ≤ 1 foot; +1, -0 inches for Length >1 to 5 feet; +2, -0 inches for Length >5 to 10 feet; +3, -0 inches for Length >10 to 25 feet and +2%, -0 inches for Length >25 feet.

#### Cable Characteristics

Description	Specification	
Cable Type	M17/60-ET-RG142	
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 Clad Copper	
Shield Layer 2	Silver Clad Copper	
Outer Conductor Diameter	0.171 in [4.34 mm]	
Jacket Material	FEP	

#### **Connector Characteristics**

Description	Connector 1	Connector 2
Туре	N Female	TNC Male
Specification	MIL-PRF-39012	MIL-PRF-39012
Impedance	50 Ohms	50 Ohms
Contact Material and Plating	Phosphor Bronze, Gold	Brass, Gold
Contact Plating Specification	MIL-G-45204	ASTM B488
Dielectric Type	Teflon	Teflon
Outer Conductor Material and Plating	Brass, Silver	Beryllium Copper, Gold
Outer Conductor Plating Specification	QQ-S-365	ASTM B488
Body Material and Plating	Brass, Silver	Brass, Silver
Body Plating Specification	QQ-S-365	ASTM B700
Seal Gasket Material		Silicone Rubber
Contact Gage Specification	0.187 to 0.207 in	0.210 to 0.230 in
Insulator Gage Specification		0.208 to 0.228 in

Mechanical Specification Notes:

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## **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, class3
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, 1.5AQL
Mass	C=0, 1.5AQL

#### Plotted and Other Data

Notes:

Values at 25°C, sea level.

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#### How to Order

Part Number Configuration:

ET3M0019
- xx uu

Unit of Measure:

cm = Centimeters

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<br/>
<br/>
chlank> = Inches

Base Number

Example: ET3M0019-12 = 12 inches long cable

ET3M0019-100cm = 100 cm long cable

MIL-DTL-17 N Female to TNC Male Cable 200 cm Length Using M17/60-ET-RG142 Coax from Ebeestock 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 N Female to TNC Male Cable 200 cm Length Using M17/60-ET-RG142 Coax ET29146

**URL:** https://www.ebeestock.com/mil-dtl-17-n-female-to-tnc-male-cable-12-inch-length-using-m17-6 0-rg142-coax-0029137

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

