Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMHR0045
DATA SHEET

N Female to SMA Male MIL-DTL-17 Cable M17/84-RG223 Coax

MIL-DTL-17 N (M39012/02-0503) to SMA (M39012/55-3028) cable assemblies with test reports from Fairview Microwave are part of our full line of reliable RF components available with same-day shipping. These COTS (commercial-off-the-shelf) cable assemblies using M17/84-RG223 have traceable processes and materials that are recorded and provided in the included test report. The MIL-DTL-17 coaxial cable and MIL-PRF-39012 connectors are assembled with J-STD-001 soldering processes and meet WHMA-A-620 workmanship criteria. These carefully selected materials, assembly processes and test sequence ensure a dependable cable assembly for high reliability applications where the cost of failure or replacement is high. Each serialized N to SMA MIL-DTL-17 cable assembly is traceable to its component lots and test data ship with every cable.

This MIL-C-17 M39012/02-0503 to M39012/55-3028 cable assembly using M17/84-RG223 datasheet PDF contains specifications, CAD drawing and dimensions that are shown below. Fairview Microwave offers these high reliability RF cable assemblies with test data, and many other RF, microwave and millimeter wave components which allow designers to configure and customize their signal systems however they like. Whether the need is to provide reliable MIL-DTL-17 interconnects or supporting test reports, Fairview Microwave has the right cable assemblies for the job. Fairview 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
SAE AS22520	Crimping Tools, Wire Termination, General Specification For

Material Specifications

Component	Specification
Cable	M17/84-RG223 in accordance with MIL-DTL-17
Connector 1	M39012/02-0503 in accordance with MIL-PRF-39012
Connector 2	M39012/55-3028 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

Configuration:

- Connector 1: M39012/02-0503(N Female)
- Connector 2: M39012/55-3028(SMA Male)
- Cable: M17/84-RG223

Features:

- Max Frequency 11 GHz
- 65.9% Phase Velocity
- Double Shielded
- PVC Jacket
- J-STD-Soldering
- Lot Traceability Data
- Qualified cable and connectors (QPL)
- Acceptance Test Report
- RF Test Data
- In stock and ready to ship

Applications:

- Hi-Reliability
- Unmanned Systems
- Drones
- MIL-DTL-17 Requirements
- Military Electronics

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Solder	SN63 in accordance with J-STD-006

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	DC		11	GHz
VSWR			1.7:1	
Velocity of Propagation		65.9		%
Capacitance		32.2 [105.64]		pF/ft [pF/m]
DC Resistance Inner Conductor		0.9 [2.95]		Ω/1000ft [Ω/Km]
Dielectric Withstanding Voltage (AC)			1,000	Vrms

Specifications by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency	0.05	0.4	1	5	11	GHz
Insertion Loss (Max.)	0.048	0.12	0.21	0.55	0.85	dB/ft
	0.16	0.39	0.69	1.8	2.79	dB/m

Electrical Specification Notes:
Insertion Loss does not include the loss of the connectors. Insertion Loss is estimated as 0.1dB per connector.

Mechanical Specifications

Cable Assembly

Description	Min	Typ	Max	Units
Cable Outer Diameter	0.208	0.212	0.216	in
Weight			0.16 [72.57]	lbs [g]

Cable Characteristics

Component	Specification
Cable Type	M17/84-RG223
Impedance	50 Ohms
Inner Conductor Type	Solid
Inner Conductor Mat. & Plat.	Silver Clad Copper
Dielectric Type	PE
Number of Shields	2
Shield Layer 1	Silver Clad Copper
Shield Layer 2	Silver Clad Copper
Outer Conductor Diameter	0.176 in [4.47 mm]
Jacket Material	PVC

Connector Characteristics

Description	Connector 1	Connector 2
Type	N Female	SMA Male
Specification	MIL-PRF-39012	MIL-PRF-39012
Impedance	50 Ohms	50 Ohms
Contact Mat. & Plat.	Phosphor Bronze, Gold	Beryllium Copper, Gold
Contact Plating Spec.	MIL-G-45204	
Dielectric Type	Teflon	PTFE
Outer Conductor Mat. & Plat.	Brass, Silver	
Outer Conductor Plating Spec.	QQ-S-365	
Body Mat. & Plat.	Brass, Silver	Passivated Stainless Steel
Body Plating Spec.	QQ-S-365	
Coupling Nut Mat. & Plat.		Passivated Stainless Steel
Seal Gasket Material		Silicone Rubber
Contact Gage Spec.	0.187 to 0.207 in	0.000 in min
Insulator Gage Spec.		0.000 in min

Mechanical Specification Notes:

Environmental Specifications

Description	Specification
Temperature Operating Range	-40 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
Workmanship	shall be in accordance with IPC/WHMA-A-620, class 3

Tests and Inspections

Test	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.

How to Order

Part Number Configuration: **FMHR0045 - xx uu**

- xx = Length
- uu = cm = Centimeters, <blank> = Inches

Example: FMHR0045-12 = 12 inches long cable
FMHR0045-100cm = 100 cm long cable

Cable Assembly Length Tolerances:

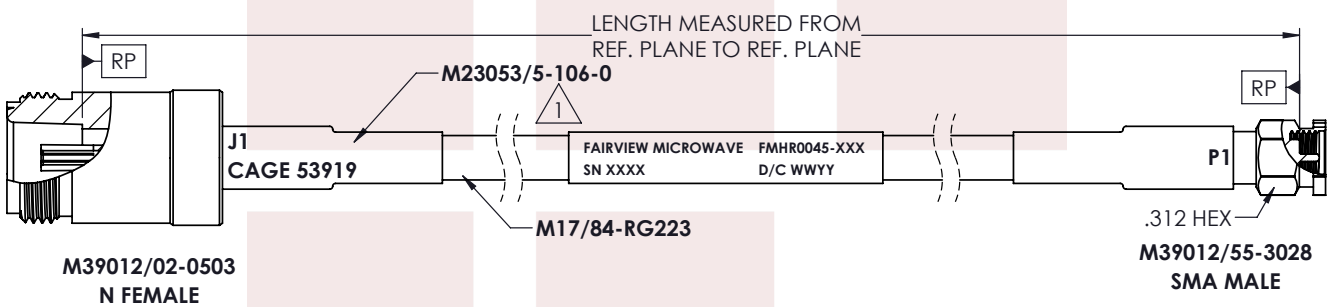
Imperial English		Metric	
"L" ≤ 1 ft	+0.5 in / -0 in	"L" ≤ 0.3 m	+12.5 mm / -0 mm
1 ft < "L" ≤ 5 ft	+1 in / -0 in	0.3 m < "L" ≤ 1.5 m	+25 mm / -0 mm
5 ft < "L" ≤ 10 ft	+2 in / -0 in	1.5 m < "L" ≤ 3 m	+50 mm / -0 mm
10 ft < "L" ≤ 25 ft	+3 in / -0 in	3 m < "L" ≤ 7.5 m	+75 mm / -0 mm
25 ft < "L"	+2%"L"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

* Cable Length = "L"

N Female to SMA Male MIL-DTL-17 Cable M17/84-RG223 Coax from Fairview Microwave has same day shipment for domestic and International orders. Our RF, microwave and fiber optic products maintain a 99% availability and are part of the broadest selection in the industry.

Click the following link to obtain additional part information: N Female to SMA Male MIL-DTL-17 Cable M17/84-RG223 Coax FMHR0045

URL: https://www.fairviewmicrowave.com/n-female-sma-male-cable-m17-84-rg223-coax-fmhr0045-p.aspx



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.

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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].

TITLE	DWG NO	CAGE CODE			
N Female to SMA Male MIL-DTL-17 Cable M17/84-RG223 Coax	FMHR0045	3FKR5			
	CAD FILE 11/15/18	SHEET 1 OF 1	SCALE N/A	SIZE A	CN2379

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