Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMHR0092-16
DATA SHEET

SMA Male to SMA Female Bulkhead MIL-DTL-17 Cable M17/113-RG316 Coax in 16 Inch

MIL-DTL-17 SMA (M39012/55-3026) to SMA (M39012/59-3026) 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 M17/113-RG316 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 SMA to SMA MIL-DTL-17 cable assembly is traceable to its component lots and test data ship with every cable.

This MIL-C-17 M39012/55-3026 to M39012/59-3026 cable assembly using M17/113-RG316 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	M17/113-RG316 in accordance with MIL-DTL-17
Connector 1	M39012/55-3026 in accordance with MIL-PRF-39012
Connector 2	M39012/59-3026 in accordance with MIL-PRF-39012
Heat Shrink 1	M23053/5-104-0 in accordance with SAE AS23053
Heat Shrink 2	M23053/5-104-0 in accordance with SAE AS23053



Configuration:

- Connector 1: M39012/55-3026(SMA Male)
- Connector 2: M39012/59-3026(SMA Female Bulkhead)
- Cable: M17/113-RG316

Features:

- Max Frequency 3 GHz
- 69.5% Phase Velocity
- FEP 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		3	GHz
VSWR			1.4:1	
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.)	0.13	0.19	0.36	0.63	0.99	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 per connector.

Mechanical Specifications

Cable Assembly

Description	Min	Typ	Max	Units
Length*	16 [406.4]	16 [406.4]	17 [431.8]	in [mm]
Cable Outer Diameter	0.094	0.098	0.102	in
Weight			0.06 [27.22]	lbs [g]

Cable Characteristics

Component	Specification
Cable Type	M17/113-RG316
Impedance	50 Ohms
Inner Conductor Type	Stranded
Inner Conductor Mat. & Plat.	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

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Connector Characteristics

Description	Connector 1	Connector 2
Type	SMA Male	SMA Female Bulkhead
Specification	MIL-PRF-39012	MIL-PRF-39012
Impedance	50 Ohms	50 Ohms
Contact Mat. & Plat.	Brass, Gold	Beryllium Copper, Gold
Contact Plating Spec.	ASTM B488	ASTM B488
Dielectric Type	Teflon	Teflon
Outer Conductor Mat. & Plat.		Steel, Passivated
Outer Conductor Plating Spec.		QQ-P-35
Body Mat. & Plat.	Steel, Passivated	Steel, Passivated
Body Plating Spec.	QQ-P-35	QQ-P-35
Coupling Nut Mat. & Plat.	Steel, Passivated	Steel, Passivated
Coupling Nut Plating Spec.	QQ-P-35	QQ-P-35
Seal Gasket Material	Silicone Rubber	Silicone Rubber
Contact Gage Spec.	0.000 in min	0.000 to 0.010 in
Insulator Gage Spec.	0.000 in min	0.000 in min

Mechanical Specification Notes:

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

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

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Plotted and Other Data

Notes:

- Values at 25°C, sea level.

How to Order

Part Number Configuration: **FMHR0092 - xx uu**

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

Example: FMHR0092-12 = 12 inches long cable
FMHR0092-100cm = 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"

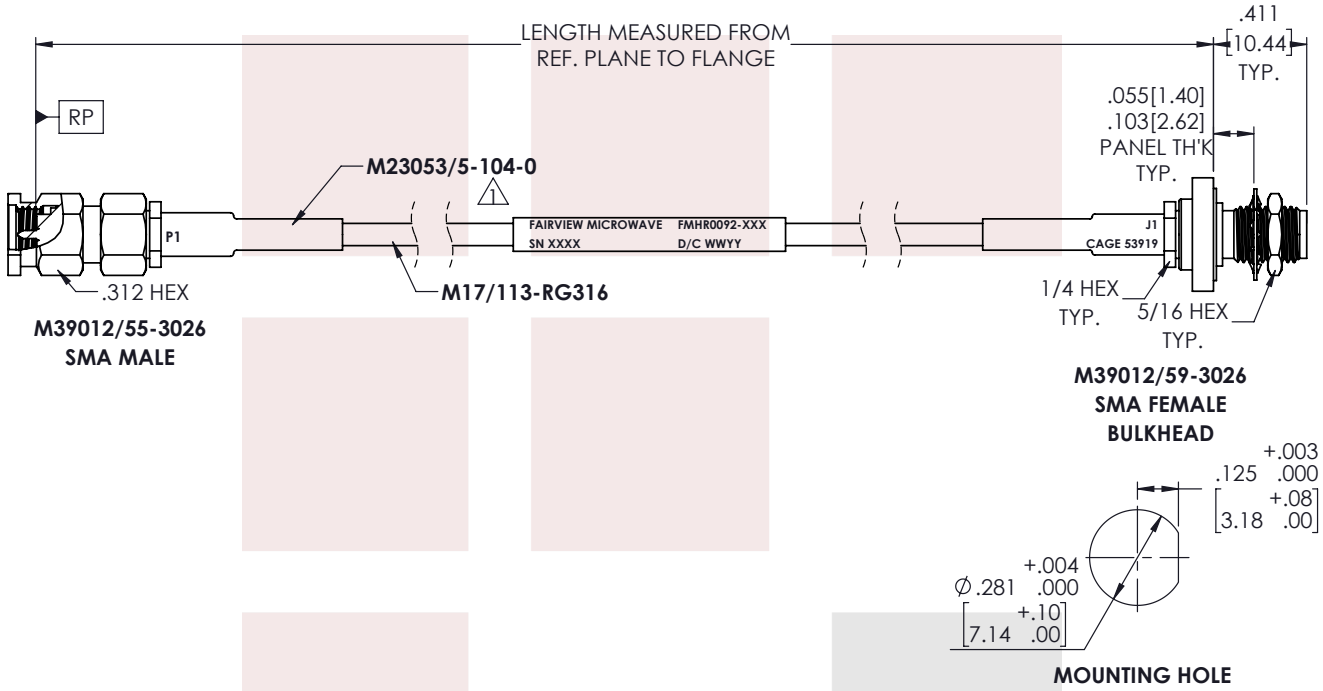
* Cable Length = "L"

SMA Male to SMA Female Bulkhead MIL-DTL-17 Cable M17/113-RG316 Coax in 16 Inch 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: SMA Male to SMA Female Bulkhead MIL-DTL-17 Cable M17/113-RG316 Coax in 16 Inch FMHR0092-16

URL: https://www.fairviewmicrowave.com/sma-male-sma-female-cable-m17-113-rg316-coax-fmhr0092-16-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. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



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
SMA Male to SMA Female Bulkhead MIL-DTL-17 Cable M17/113-RG316 Coax in 16 Inch

DWG NO	CAGE CODE				
FMHR0092	3FKR5				
CAD FILE 11/16/18	SHEET 1 OF 1	SCALE N/A	SIZE A	CN2379	

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