

FMHR0227-60 DATA SHEET

Temperature Conditioned Low Loss SMA Male to TNC Male Cable LL335i Coax in 60 Inch

Temperature conditioned low loss SMA Male to TNC Male cable assemblies with RF test reports from Fairview Microwave are part of our full line of reliable RF components available to ship same day. These COTS (commercial-off-the-shelf) cable assemblies using LL335i triple shielded coax with expanded PTFE dielectric have traceable processes and materials that are recorded and provided in the included test report. The temperature pre-conditioned coaxial cable and captivated stainless steel RF connectors are assembled with J-STD-001 soldering processes and meet WHMA-A-620 workmanship criteria. The carefully selected materials, temperature conditioning, assembly processes and test sequence ensure a dependable cable assembly for high-reliability applications with wide temperature excursions and where the cost of failure is high. Each serialized SMA to TNC low loss cable assembly is traceable to its component lots and test data ships with every cable.

This low loss temperature tolerant hi-rel cable assembly using LL335i expanded PTFE cable 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 interconnects over wide temperature extremes or have supporting test reports, Fairview Microwave has the right cable assemblies for the job. Fairview can also expertly build your custom RF cable assemblies for you and ship same day.

Referenced Specifications

IPC/WHMA-A-620	Requirements and Acceptance for Cable and Wire
	Harness Assemblies
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
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, Genera
	Specifications For
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Material Specifications

Component Specification

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Cable	LL335i per LL335i datasheet
Connector 1	FMCN1185 per MIL-STD-348
Connector 2	FMCN1183 per MIL-STD-348
Heat Shrink 1	SUMITUBE W3B2(4X) 24/6 per SAE AS23053 as applicable
Heat Shrink 2	SUMITUBE W3B2(4X) 24/6 per SAE AS23053 as applicable
Heat Shrink 3	M23053/4-304-0 per SAE AS23053
Heat Shrink 4	M23053/4-304-0 per SAE AS23053
Solder	SN63 per J-STD-006



Configuration:

- Connector 1: FMCN1185 (SMA Male)
- Connector 2: FMCN1183 (TNC Male)
- · Cable: LL335i

Features:

- Max Frequency 18 GHz
- 83% Phase Velocity
- Triple Shielded
- FEP Jacket
- Temperature Pre-Conditioned Cable
- J-STD Soldering
- Lot Traceability
- Captivated Stainless Steel Connectors
- Expanded PTFE dielectric
- Serialized Test Data & Report
- In-stock and ships same day

Applications:

- General Purpose
- Laboratory Use
- Extreme Temperatures
- Hi-Reliability
- Unmanned Systems
- COTS Solutions
- Avionics
- Electronic

Countermeasures(ECM)

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Electrical Specifications

Description	Min	Тур	Max	Units
Frequency Range	DC		18	GHz
VSWR			1.35:1	
Velocity of Propagation		83		%
Capacitance	2	25 [82.02] pF/ft [pF/ft [pF/m]

Specifications by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency	1	2	4.5	9	18	GHz
Insertion Loss (Max.)	0.4	0.53	0.75	1.04	1.48	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 0.1 dB for the SMA Male connector and 0.04*SQRT(FGHz) dB for the TNC Male connector.

Mechanical Specifications

Cable Assembly

Description	Min	Тур	Max	Units
Length*	60 [152.4]	60 [152.4]	61 [154.94]	in [cm]
Cable Outer Diameter	0.295	0.3	0.305	in
Weight			0.61 [276.69]	lbs [g]

Cable Characteristics				
Component		Specification		
Cable Type		LL335i		
Impedance		50 Ohms		
Inner Conductor Type		Solid		
Inner Conductor Mat. & Pla	at. Copper, Silver			
Dielectric Type	Expanded PTFE Tape			
Number of Shields	3			
Shield Layer 1	Silver Plated Copper Tape			
Shield Layer 2	Aluminum Polyester			
Shield Layer 3	Silver Plated Copper Wire			
Jacket Material		FEP		





Connector Characteristics

Description	Connector 1	Connector 2			
Туре	SMA Male	TNC Male			
Specification	MIL-STD-348	MIL-STD-348			
Impedance	50 Ohms	50 Ohms			
Contact Mat. & Plat.	Beryllium Copper, Gold over Nickel	Beryllium Copper, Gold over Nickel			
Contact Plating Spec.	50 μin minimum	50 μin minimum			
Dielectric Type	PTFE	PTFE			
Body Mat. & Plat.	Passivated Stainless Steel	Passivated Stainless Steel			
Body Plating Spec.	SAE-AMS-2700	SAE-AMS-2700			
Coupling Nut Mat. & Plat.	Passivated Stainless Steel	Passivated Stainless Steel			
Coupling Nut Plating Spec.	SAE-AMS-2700	SAE-AMS-2700			
Hex Size	5/16 inch	9/16 inch			
Seal Gasket Material	Silicone Rubber	Silicone Rubber			
Contact Gage Spec.	0.000 in min	0.210 to 0.230 in			
Insulator Gage Spec.	0.000 in min	0.208 to 0.228 in			

Environmental Specifications

Description	Specification
Temperature Operating Range	-55 to +125 deg C

Compliance Certifications (see product page for current document)

Process Specifications

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Process	Specification
Cable Preconditioning	5 cycles, -55 °C to +125°C, 20 minute dwells
Soldering	in accordance with J-STD-001, class 3
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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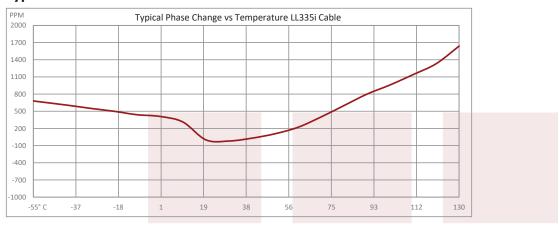


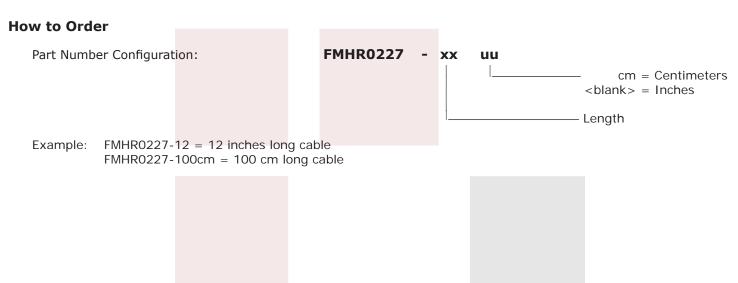
Plotted and Other Data

Notes:

• Values at 25°C, sea level.

Typical Performance Data









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"

Temperature Conditioned Low Loss SMA Male to TNC Male Cable LL335i Coax in 60 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.

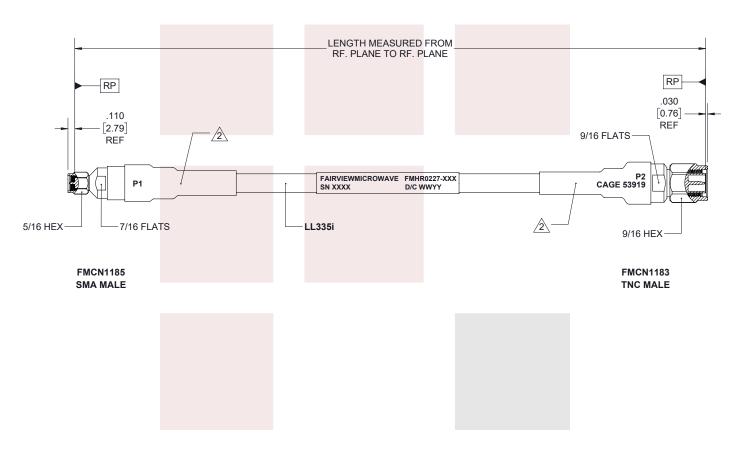
Click the following link to obtain additional part information: Temperature Conditioned Low Loss SMA Male to TNC Male Cable LL335i Coax in 60 Inch FMHR0227-60

URL: https://www.fairviewmicrowave.com/temperature-conditioned-sma-male-tnc-male-cable-II335i-coax-fmhr0227-60-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. ALL BLACK HEAT SHRINK WITH WHITE MARKINGS.
- TOP LAYER: SUMITUBE W3B2 (4X) SIZE 24/6. BOTTOM LAYER: M23053/4-304-0.

Fairview Microwave	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].			TIME.			
Temperature Conditioned Low Loss SMA Male to TNC - Male Cable LL335i Coax in 60 Inch	DWG NO FMHR0227				CAGE CODE 3FKR5		
	CAD FILE 02/12/19	SHEET	1 OF 1	SCAL	E N/A	SIZE A	7361