Instrumentation Test Cables E67 Model Series

DC to 67 GHz Low Loss **50**0

The Big Deal

- Ultra-wideband operation, DC to 67 GHz
- Stainless steel 1.85mm connectors for long mating-cycle life
- Low insertion loss and excellent return loss
- · Very flexible with small bend radius 10mm

Product Overview

Mini-Circuits' E67 Model Series are ultra-wideband precision rugged instrumentation cables specially designed for use with 67 GHz VNA equipment in test environments. The cables provide excellent VSWR and very low insertion loss over its entire frequency range. 1.85mm straight to1.85mm connector configuration provides direct connection from the ports of a 67 GHz VNA to 1.85mm connectorized devices without the need for adapters. These cables are available in a variety of lengths.

Key Features

Feature	Advantages			
DC-67 GHz operation designed for use with Vector Network Analyzers (VNA)	Covers a wide range of test applications; rugged 1.85mm connector interfaces directly with VNA without the need for an adapter for improved VSWR performance and lower cost.			
Stainless Steel Connectors	Stainless Steel Connectors maintains integrity of the cable-connector interface improving the reliability and extending life of use.			
Anti-Torque Component	Nut component feature on connector used to fit a torque wrench to minimize stress on connectors and prevent breakage			



CASE STYLE: UM3060-XX

- Notes
- A Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document. B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. C. The parts covered by this specification document are subject to Mini-Circuit's standard limited warranty and terms and conditions (collective), "Standard Terms"), Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp



Instrumentation Test Cable

Features

Applications

· Field RF testing

Extremely low insertion loss

and strain relief for longer life

Minimum Bend Radius of 10mm

· Point to point or rack to rack connections

• Environmental & temperature test chambers · Replacement for OEM test port cables

· High volume production test stations Research & development labs

· Cellular infrastructure site testing

· Extra rugged construction includes protective shield

· Stainless steel connector for long mating-cycle life

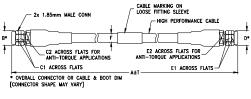
DC to 67 GHz Low Loss 50Ω 3FT

Maximum Ratings

Operating Temperature	-55°C to 85°C		
Storage Temperature	-55°C to 85°C		
Power Handling at 25°C,	57 W at 1 GHz		
Sea Level	22 W at 6 GHz		
	12 W at 18 GHz		
	10 W at 26.5 GHz		
	8 W at 40 GHz		
	7 W at 50 GHz		
	6 W at 67 GHz		

Permanent damage may occur if any of these limits are exceeded.

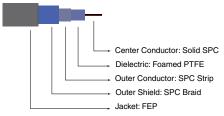
Outline Drawing



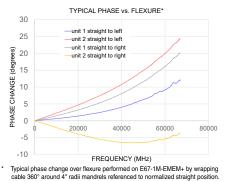
Outline Dimensions (inch)

A	в	C1	C2	D	E1	E2	F	т	wt
Feet Meters 3.00 0.91									

Cable Construction



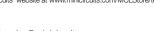
Product Guarantee Mini-Circuits® will repair or replace your test cable at its option if the connector attachment fails within six months of shipment. This guarantee excludes cable or connector interface damage from misuse or abuse.



** Setup is flipped and measurement is repeated.

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E67-3FT-EMEM+

Generic photo used for illustration purposes only CASE STYLE: UM3060-3

Connectors Model

1.85mm Male

E67-3FT-EMEM+

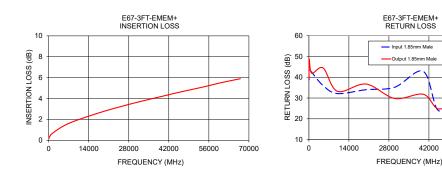
+RoHS Compliant The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Тур.	Max.	Units	
Frequency Range		DC		67	GHz	
Length			3		ft	
	DC - 26.5	_	2.2	4.0		
Insertion Loss	26.5 - 40	_	3.8	5.1	dB	
	40 - 50	_	4.6	6.0		
	50 - 67	—	5.4	6.4		
Return Loss	DC - 26.5	19	36	—		
	26.5 - 40	17	33	—	dB	
	40 - 50	16	29	—		
	50 - 67	16	27	_		

Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)		
		1.85 mm Male	1.85 mm Male	
50	0.13	38.74	39.39	
100	0.19	43.79	48.76	
1000	0.59	42.37	41.93	
5000	1.34	35.95	44.44	
10000	1.94	32.14	33.23	
20000	2.83	34.00	36.72	
30000	3.57	35.17	29.79	
40000	4.23	42.84	31.81	
45000	4.56	24.35	24.88	
50000	4.86	27.59	27.21	
55000	5.17	28.61	31.80	
60000	5.50	28.32	33.21	
67000	5.90	20.87	19.68	





56000

70000

Proper Cable Connection Using Anti-Torque Nut

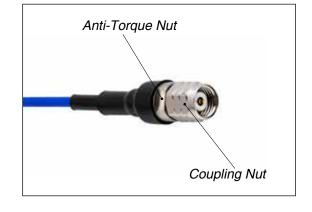
Mini-Circuits E67 Series interconnect cables are constructed with an anti-torgue nut adjacent to the connector coupling nut. When used properly, this feature prevents possible damage to the cable due to torqueing and twisting when tightening the cable connector.

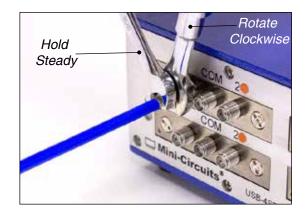
To properly tighten the cable connector:

1) The cable connector includes a coupling nut which rotates to fasten the connector, and an anti-torque nut, which is fixed to prevent the cable from twisting during connection.

2) To properly tighten the cable, use a standard 1/4-inch open end wrench to brace the anti-torque nut.

3) Using a 5/16-inch open end wrench, rotate the coupling nut clockwise to tighten the cable connector.





NOTE: Mini-Circuits recommends using a 5/16-inch open end wrench calibrated to 8 inchpounds maximum torque to prevent damage due to over-torqueing the connector.

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