



Test Cable

T50 Series

50Ω DC to 50 GHz

The Big Deal

- Ultra-wideband, DC-50 GHz
- Good phase stability vs flexure
- Low Insertion Loss



CASE STYLE: RL2850-2

Product Overview

Mini-Circuits' T50-series test cables provide wideband performance for test applications from DC to 50 GHz with low insertion loss and excellent return loss. These cables are specially designed for stability of phase and amplitude versus flexure while offering outstanding durability and reliability. Featuring triple-shielded cable construction with a unique molded boot, the cables are suitable for demanding lab environments where constant bending is required. T50-series cables feature 2.4mm-male to 2.4mm-male connectors and come in a variety of lengths to meet your needs.

Key Features

Feature	Advantages
Wideband, DC to 50 GHz	Supports a wide range of test applications including R&D, military and defense, production test and more.
Excellent stability of phase versus flexure	T50-series test cables have been tested in bend radii as tight as 2.0 inches to ensure minimal change in phase, providing reliable performance in a wide range of configurations.
Low insertion loss	Allows accurate measurement with minimal compensation for the effects of the cable connection.
2.4mm-male to 2.4mm-male connectors	Mates with common connector types for 40 and 50 GHz test applications.

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-Circuits standard limited warranty and terms and conditions (collectively, "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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



FLEX TEST Test Cable

50Ω 2FT DC to 50 GHz Low Loss

Maximum Ratings

Operating Temperature	+18°C to +28°C	
Storage Temperature	-40°C to +50°C	
Power Handling at 25°C,	144W at	2 GHz
Sea Level	46W at	18 GHz
	38W at	26.5 GHz
	30W at	40 GHz
	25W at	50 GHz

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

Features

- low insertion loss
- stainless steel 50 GHz connector for long mating-cycle life
- triple shield cable for excellent shielding effectiveness
- good amplitude and phase stability vs flexing over frequency
- 50 GHz connector mates with 2.4 mm

Applications

- military and defense applications
- research & development labs

T50-2FT-VMVM+



Generic photo used for illustration purposes only

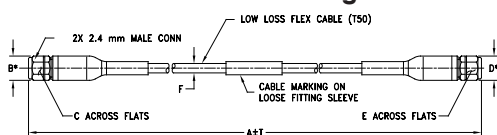
CASE STYLE: RL2850-2

Connectors	Model
2.4mm Male	T50-2FT-VMVM+

+RoHS Compliant

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

Outline Drawing

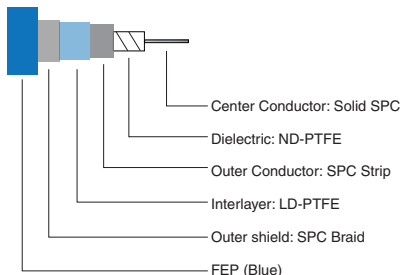


* OVERALL CONNECTOR OR CABLE & BOOT DIM [CONNECTOR SHAPE MAY VARY]

Outline Dimensions (inch/mm)

	A	B	C	D	E	F	T		wt	
	Feet	Meters	0.36	0.315	0.36	.315	Inch	MM	grams	
	2.00	0.61	9.25	8.00	9.25	8.00	3.60	+08/-0	+2.0/-0	47

Cable Construction



Product Guarantee

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

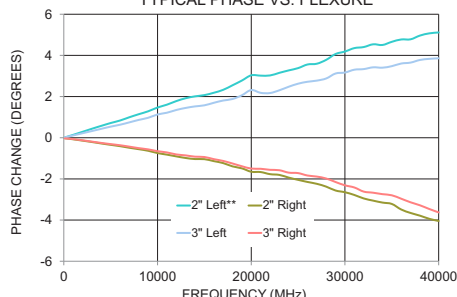
Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		50	GHz
Length			2		FT
Insertion Loss	DC - 18	—	0.8	1.7	dB
	18 - 26.5	—	1.58	2.0	
	26.5 - 40	—	1.97	2.6	
Return Loss	40 - 50	—	2.39	3.1	dB
	DC - 18	20	34.9	—	
	18 - 26.5	17	24.6	—	
Return Loss	26.5 - 40	16	25.2	—	dB
	40 - 50	15	22.6	—	

Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		2.4mm Male	24mm Male
100	0.09	29.22	29.09
3100	0.58	46.20	47.40
4000	0.66	57.25	40.13
6100	0.82	35.42	34.58
10000	1.04	29.48	29.74
15000	1.27	29.78	29.36
18000	1.39	36.08	47.29
20000	1.51	20.56	20.92
26000	1.72	29.39	25.34
28000	1.80	22.26	22.23
30000	1.84	29.80	30.74
36000	2.09	22.60	22.84
40000	2.26	21.50	20.22
45000	2.37	27.83	40.26
50000	2.80	21.24	19.24

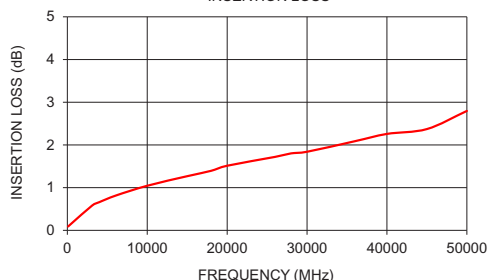
TYPICAL PHASE VS. FLEXURE*



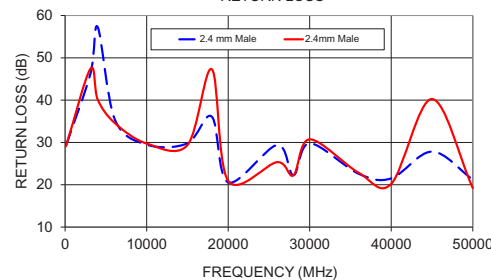
* Typical phase change over flexure performed on T50-3FT-VMVM+ by wrapping cable 360° around 2" and 3" radii mandrels referenced to normalized straight position.

** Setup is flipped and measurement is repeated.

T50-2FT-VMVM+ INSERTION LOSS



T50-2FT-VMVM+ RETURN LOSS



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