



Mini-Circuits



Test Cable

T50-2FT-VMVM+

50Ω 2FT DC to 50 GHz Low Loss 2.4mm-Male

THE BIG DEAL

- 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



Generic photo used for illustration purposes only

Model No.	T50-2FT-VMVM+
Case Style	RL2850-2
Connectors	2.4mm Male

APPLICATIONS

- Military and Defense Applications
- Research & development labs

+RoHS Compliant

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

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.

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.





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ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (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	
	40 - 50	—	2.39	3.1	
Return Loss	DC - 18	20	34.9	—	dB
	18 - 26.5	17	24.6	—	
	26.5 - 40	16	25.2	—	
	40 - 50	15	22.6	—	

ABSOLUTE MAXIMUM RATINGS

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

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





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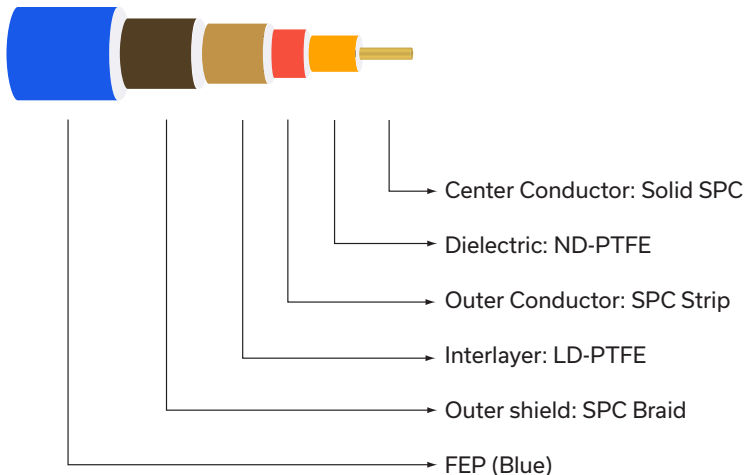


Test Cable

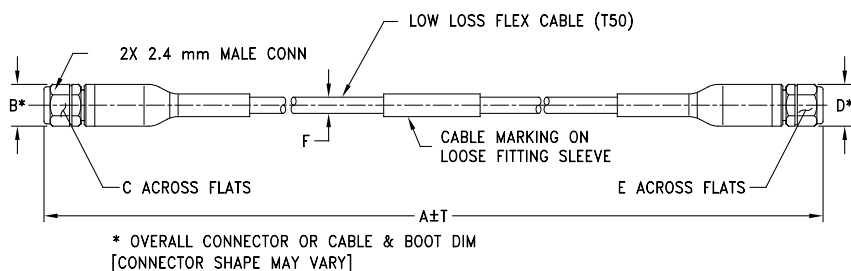
T50-2FT-VMVM+

50Ω 2FT DC to 50 GHz Low Loss 2.4mm-Male

CABLE CONSTRUCTION



OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch mm)

A		B	C	D	E	F	T		wt
Feet	Meters	0.36	0.315	0.36	.315	.142	Inch	MM	grams
2.00	0.61	9.25	8.00	9.25	8.00	3.60	+ .08/-0	+2.0/-0	47





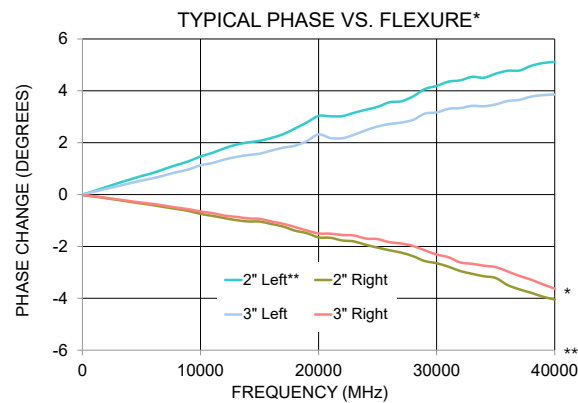
Test Cable

T50-2FT-VMVM+

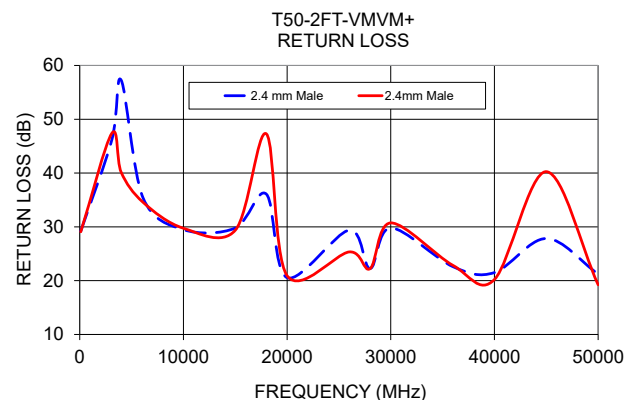
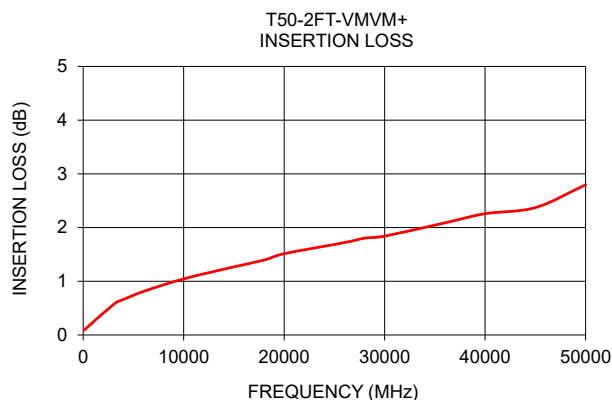
50Ω 2FT DC to 50 GHz Low Loss 2.4mm-Male

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		2.4mm Female	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 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.



NOTES

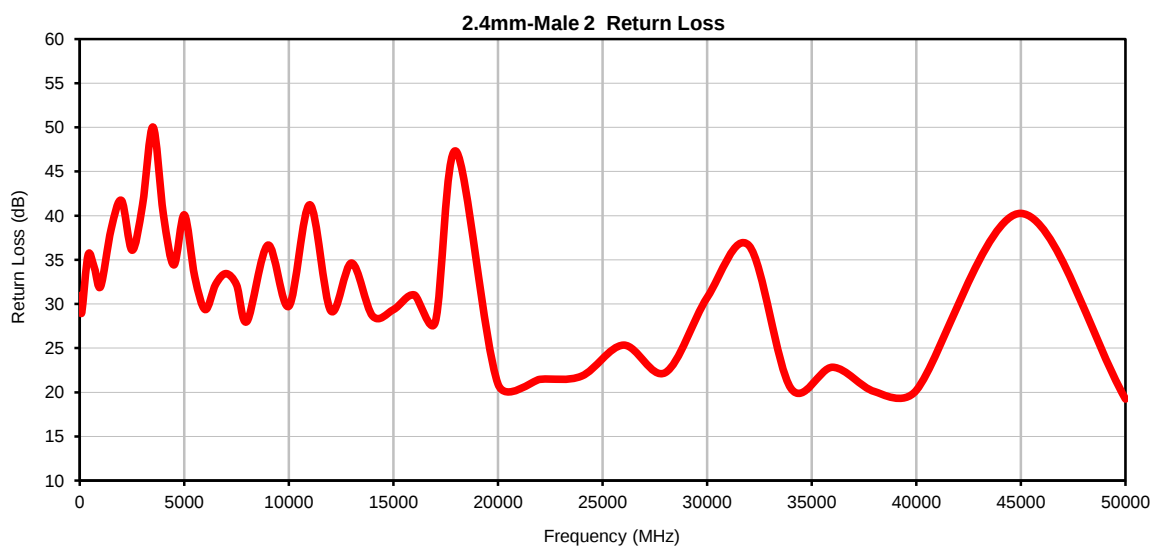
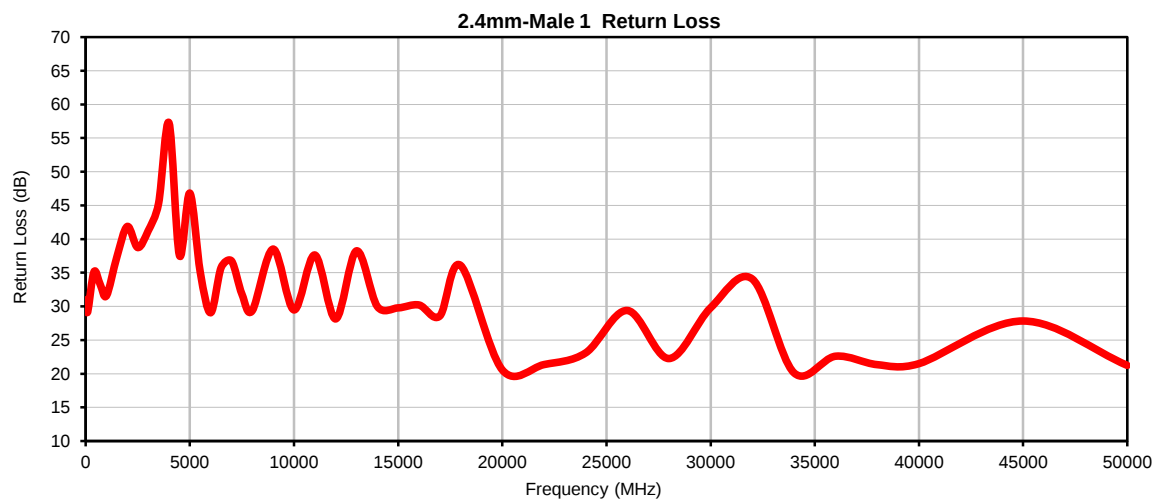
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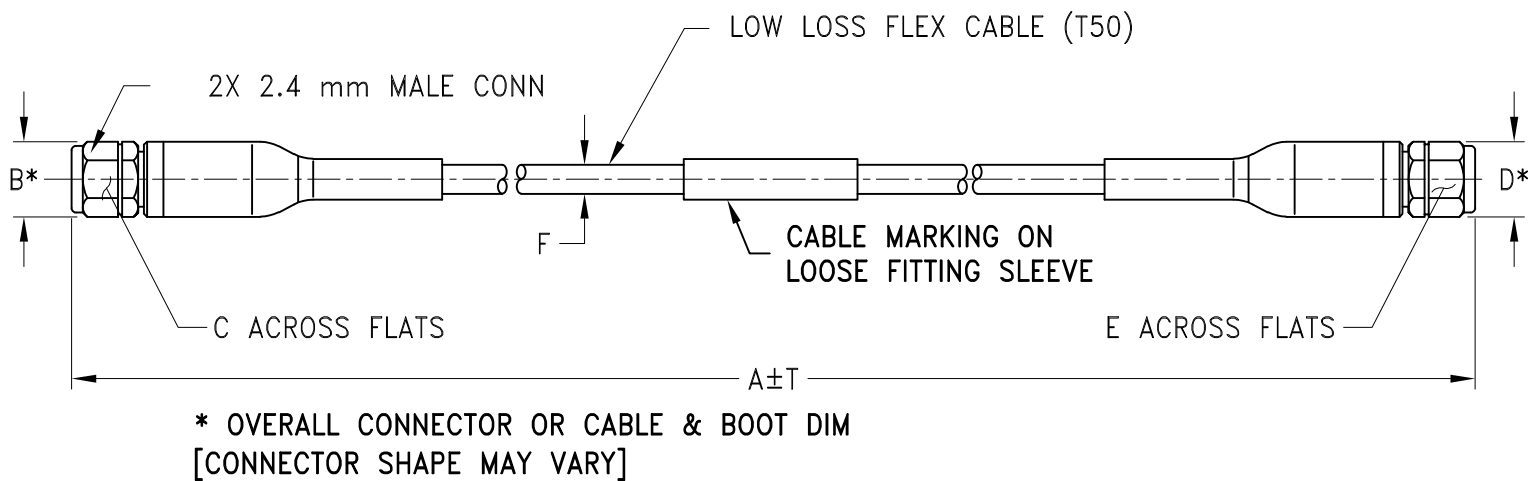


Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	2.4mm-MALE 1 RETURN LOSS (dB)	2.4mm-MALE 2 RETURN LOSS (dB)
50	0.06	31.01	30.98
100	0.09	29.22	29.09
400	0.21	35.14	35.57
700	0.28	33.24	34.09
1000	0.33	31.59	31.99
1500	0.40	37.37	38.47
2000	0.46	41.88	41.71
2500	0.52	38.74	36.09
3000	0.57	41.22	41.18
3500	0.61	45.29	50.05
4000	0.66	57.25	40.13
4500	0.70	37.59	34.42
5000	0.73	46.83	40.10
5500	0.78	35.09	33.06
6000	0.81	29.06	29.36
6500	0.84	35.75	32.23
7000	0.88	36.75	33.44
7500	0.91	31.83	32.15
8000	0.94	29.38	28.04
9000	0.99	38.52	36.67
10000	1.04	29.48	29.74
11000	1.09	37.64	41.24
12000	1.14	28.14	29.23
13000	1.18	38.25	34.64
14000	1.23	29.99	28.64
15000	1.27	29.78	29.36
16000	1.31	30.21	31.02
17000	1.35	28.58	27.95
18000	1.39	36.08	47.29
20000	1.51	20.56	20.92
22000	1.60	21.36	21.47
24000	1.66	23.10	21.84
26000	1.72	29.39	25.34
28000	1.80	22.26	22.23
30000	1.84	29.80	30.74
32000	1.92	34.07	36.61
34000	2.04	20.14	20.46
36000	2.09	22.60	22.84
38000	2.17	21.35	20.08
40000	2.26	21.50	20.22
45000	2.37	27.83	40.26
50000	2.80	21.24	19.24

Typical Performance Curves





RL2850 SERIES

2.4 MM MALE (CONN)

CASE STYLE #	A		B	C	D	E	F	T		WT. (GRAMS)
	FEET	METERS						INCH	MM	
RL2850-2	2.00	.61	.36 [9.25]	.315 [8.00]	.36 [9.25]	.315 [8.00]	.142 [3.60]	+.08 -0	+2.0 -0	47.0
RL2850-3	3.00	.91						+.72 -0	+18.2 -0	58.0

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2 Pl.±.03; 3 Pl. ±.015

Note:

- 1. Low Loss Flexible (T50) Cable.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



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