



FLEXIBLE

# Coaxial Cable

## FL47-6KMVM+

50Ω 6 inch DC to 40 GHz 2.4mm-Male to 2.92mm-Male

### THE BIG DEAL

- Wideband frequency coverage, DC to 40 GHz
- Low Loss, 1.5 dB typ. at 40 GHz
- Excellent Return Loss, 28 dB typ. up to 40 GHz
- 5 mm static bend, 10 mm dynamic bend
- Ideal for interconnect of sub-assembly systems



Generic photo used for illustration purposes only

<b>Model No.</b>	FL47-6KMVM+
<b>Case Style</b>	UL3031-6
<b>Connectors</b>	2.4mm-Male to 2.92mm-Male

### APPLICATIONS

- Replacement for custom bent semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace systems
- Environmental and test chambers
- Test accessory

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

### PRODUCT OVERVIEW

The FL47-6KMVM+ is ideal for interconnection of coaxial components or sub-systems. The construction includes a silver-plated copper center conductor. The outer shield is silver plated copper braid, which minimizes signal leakage and at the same time flexible for easy bend. Dielectric is low loss FEP. Connectors have passivated stainless-steel coupling nut over a gold plated connector body with gold plated brass center conductor.

### KEY FEATURES

Feature	Advantages
Flexible RF Cables	The FL47 Series Flexible cables are ideal for use integrating coaxial components and subassemblies without the need for special cable-bending tools and alleviating the risk of damaging the bending process typical of semi-rigid coaxial cable assemblies.
Tight Bend Radius: 5mm static bend, 10mm dynamic	Capable of only 5mm static bend, 10mm dynamic bend radius, the FL47 Flexible series is able to make connections in tight spaces making these cables ideal for dense system integration
Excellent Return Loss, • 35 dB at 26.5 GHz	The FL47-6KMVM+ is ideally suited for interconnecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors.
Good Power Handling Capability: • 61W at 0.5 GHz • 8W at 18 GHz	Mini-Circuits FL47 Cable series can support medium to high RF power levels enabling these cables to be used in the transmit path. NOTE: power rating is at sea-level altitudes





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## ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC	-	40	GHz
Length <sup>1</sup>		6			inches
Insertion Loss	DC - 26.5	-	0.8	1.66	dB
	26.5 - 40	-	1.3	2.1	
Return Loss	DC - 26.5	19.1	31.0	-	dB
	26.5 - 40	17.7	27.8	-	

1. Custom sizes available, consult factory.

## ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
Power Handling at 25°C, Sea Level	61W at 0.5 GHz
	16W at 6 GHz
	8W at 18 GHz
	6W at 26.5 GHz
	2W at 40 GHz
	1W at 50 GHz

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





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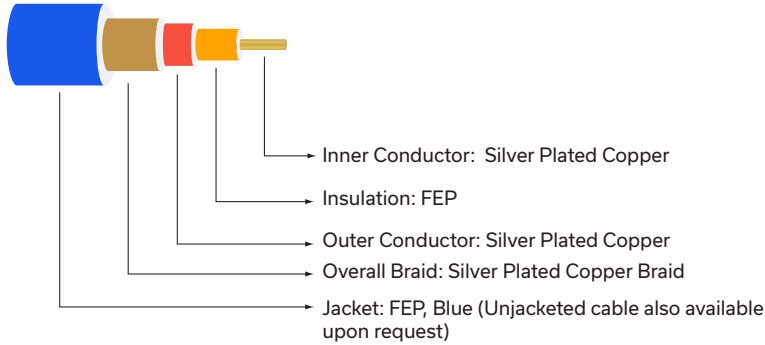
# Coaxial Cable

FL47-6KMVM+

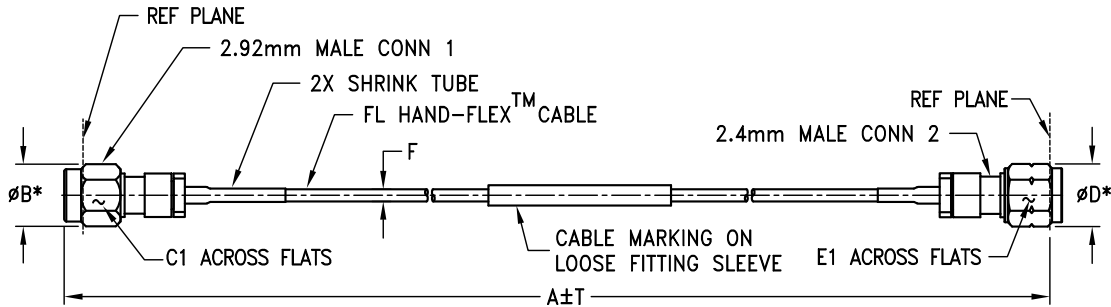
Mini-Circuits

50Ω 6 inch DC to 40 GHz 2.4mm-Male to 2.92mm-Male

## CABLE CONSTRUCTION



## OUTLINE DRAWING



## OUTLINE DIMENSIONS (Inch/mm)

A	B	C1	D	E1	F	T	wt
6.0	.36	.315	.36	.315	.055	.05	grams
152.40	9.14	8.00	9.14	8.00	1.40	1.27	9.44





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# Coaxial Cable

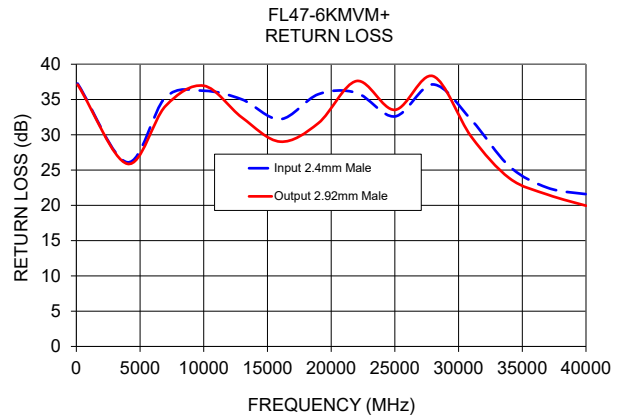
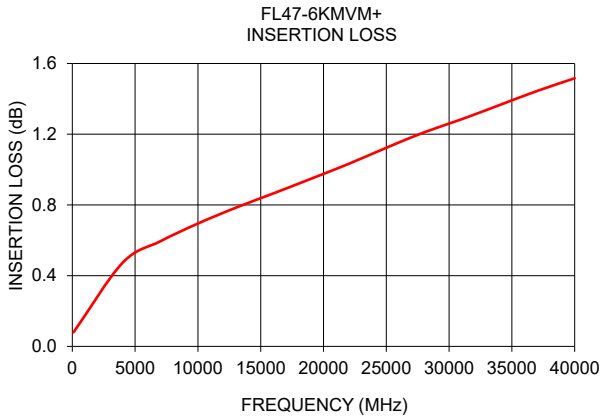
## FL47-6KMVM+

Mini-Circuits

50Ω 6 inch DC to 40 GHz 2.4mm-Male to 2.92mm-Male

### TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Input 2.4mm-Male	Output 2.92mm-Male
100	0.08	37.3	37.1
4000	0.47	26.1	25.9
7000	0.59	35.3	34.1
10000	0.69	36.2	36.9
13000	0.78	35.0	32.4
16000	0.86	32.2	29.0
19000	0.95	35.8	31.7
22000	1.03	35.9	37.6
25000	1.12	32.6	33.5
28000	1.21	37.1	38.3
31000	1.28	32.1	29.7
34000	1.36	25.5	23.8
37000	1.44	22.5	21.5
40000	1.52	21.6	19.9



#### NOTES

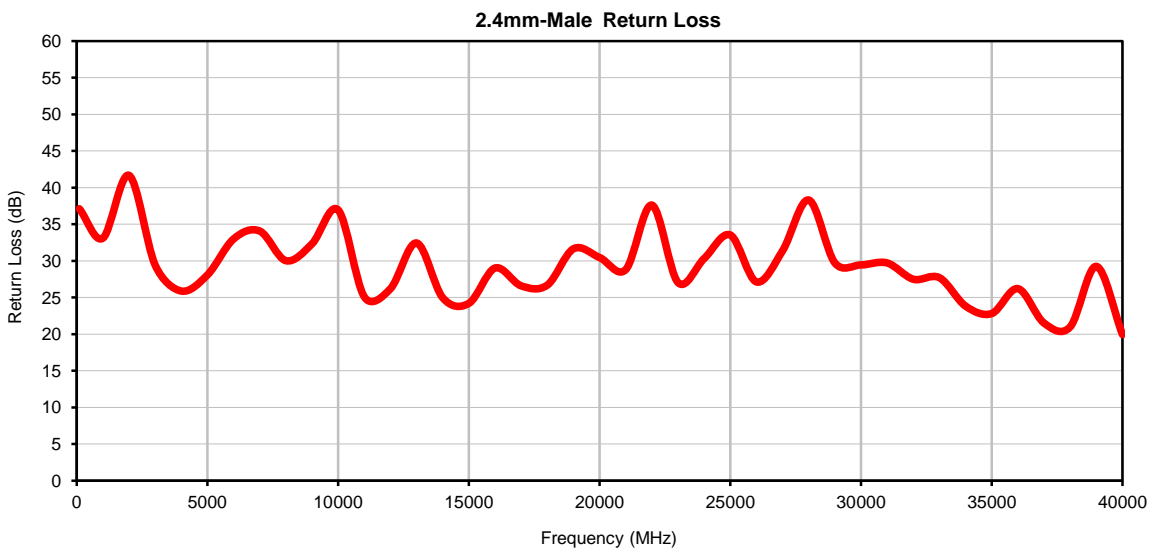
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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*Typical Performance Data*

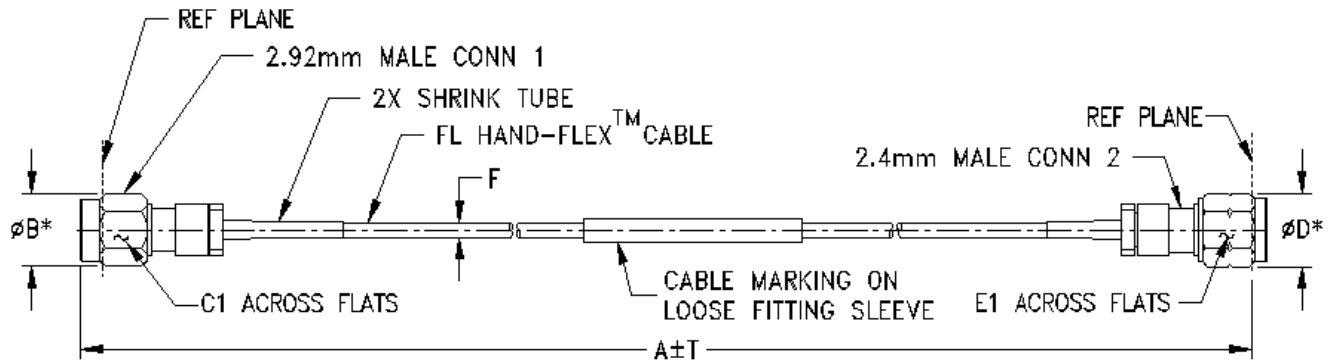
FREQUENCY (MHz)	INSERTION LOSS (dB)	2.92mm-MALE RETURN LOSS (dB)	2.4mm-MALE RETURN LOSS (dB)
100	0.08	37.26	37.11
1000	0.25	34.50	33.11
2000	0.34	45.83	41.67
3000	0.41	30.82	29.42
4000	0.47	26.10	25.88
5000	0.52	29.11	28.09
6000	0.56	41.15	33.00
7000	0.59	35.32	34.08
8000	0.63	32.01	30.03
9000	0.67	32.80	32.33
10000	0.69	36.24	36.95
11000	0.74	25.37	25.09
12000	0.77	26.93	26.21
13000	0.78	35.01	32.45
14000	0.82	25.04	24.97
15000	0.85	25.68	24.21
16000	0.86	32.20	29.03
17000	0.89	27.23	26.60
18000	0.92	29.27	26.70
19000	0.95	35.75	31.65
20000	0.97	29.17	30.46
21000	1.00	31.52	28.81
22000	1.03	35.94	37.62
23000	1.07	27.66	27.05
24000	1.10	31.57	30.33
25000	1.12	32.60	33.53
26000	1.16	28.27	27.13
27000	1.19	29.01	31.39
28000	1.21	37.14	38.31
29000	1.24	31.56	29.72
30000	1.26	31.39	29.46
31000	1.28	32.12	29.72
32000	1.31	29.87	27.50
33000	1.33	29.30	27.71
34000	1.36	25.51	23.83
35000	1.39	24.93	22.82
36000	1.40	30.09	26.21
37000	1.44	22.48	21.51
38000	1.47	22.58	21.00
39000	1.46	32.68	29.25
40000	1.52	21.59	19.95

Typical Performance Curves



## Outline Dimensions

## UL3033



### UL3030 SERIES

2.92 MM MALE (CONN 1)

2.4 MM MALE (CONN 2)

CASE STYLE #	A		B	C1	D	E1	F		T		WT. (GRAMS)
	INCH	MM					FL47U- AKMVM+ (UN-JACKETED)	FL47- AKMVM+ (JACKETED)	INCH	MM	
UL3033-6	6.00	152.40	.36 [9.14]	.315 [8.00]	.36 [9.14]	.315 [8.00]	.046±.004 [1.17±0.1]	.055±.004 [1.40±0.1]	.05	1.27	9.44
UL3033-12	12.00	304.80							.10	2.54	10.28

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2 Pl.± .03; 3 Pl. ± .015

### Note:

- 047 Flexible Coaxial Cable
- "A" Represents Length of cable.

**Mini-Circuits®**

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Mini-Circuits ISO 9001 & ISO 14001 Certified



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 85°C, 25 cycles	MIL-STD-202F: Method 107G