FLEXIBLE

Coaxial Cable

FL47-12SSMPKM+

50Ω 12 inch DC to 40 GHz SMMP-Female to 2.92mm-Male

THE BIG DEAL

- Wideband frequency coverage, DC to 40 GHz
- Low Loss, 2.7 dB typ. at 40 GHz
- Excellent Return Loss, 24 dB typ. at 40 GHz
- 5 mm static bend, 10 mm dynamic bend
- Insulated outer jacket standard
- Connector interface, meets IEEE STD 287-2007 standard
- Ideal for interconnect of assembled systems

Generic photo used for illustration purposes only

Model No.	FL47-12SSMPKM+
Case Style	UL3034-12
Connectors	SMMP-Female to 2.92mm-Male

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

APPLICATIONS

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

PRODUCT OVERVIEW

The FL47 Series Flexible Coaxial Cables are ideal for interconnection of coaxial components or sub-systems. The construction includes a silver-plated copper-clad steel center conductor. The outer shield is copper braid, tin soaked, which minimizes signal leakage and at the same time flexible for easy bend. Dielectric is low loss PTFE. Connectors have passivated stainless-steel coupling nut over a gold plated connector body with gold plated brass center conductor. The FL47 Series Flexible cables are available in variety of length to meet your requirements.

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 damageduring 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, • 30 dB at 26.5 GHz	The FL47 Series Flexible Cables are ideally suited for interconnecting a wide variety of RF components while mini-mizing 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[1]			12		inches
Insertion Loss	DC - 26.5 26.5 - 40	- -	1.5 2.6	3.0 3.8	dB
Return Loss	DC - 26.5 26.5 - 40	19.1 16.5	30.6 25.5	- -	dB

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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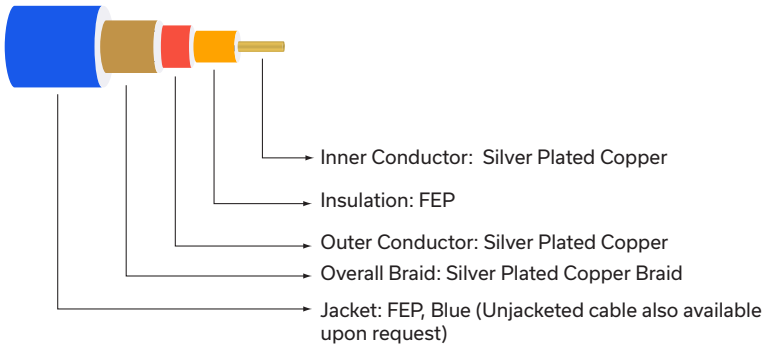
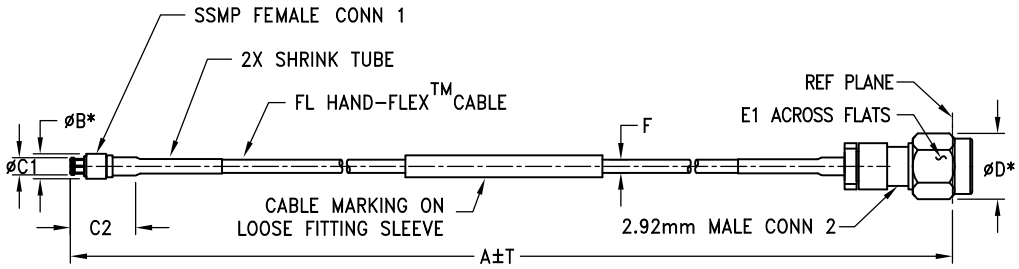
CABLE CONSTRUCTION



OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch / mm)

A	B	C1	C2	D	E1	F	T	wt
12.0	.14	.093	.303	.36	.315	.055	.10	grams
304.80	3.56	2.36	7.70	9.14	8.00	1.40	2.54	6.33

Coaxial Cable

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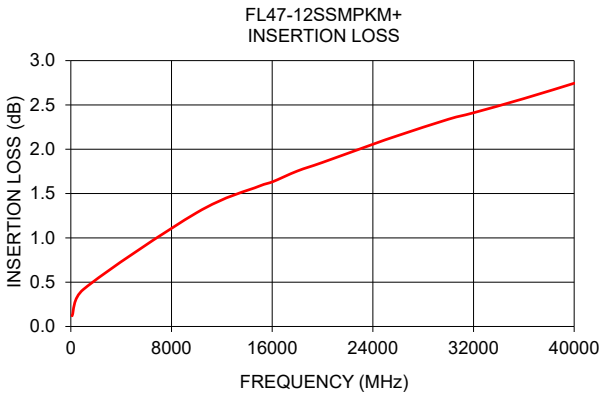
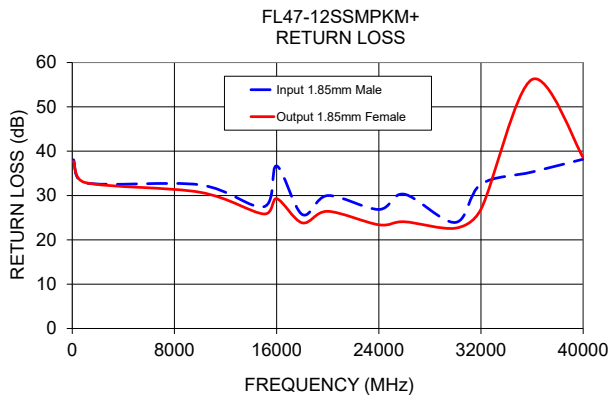
50Ω 12 inch DC to 40 GHz SMMP-Female to 2.92mm-Male

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Input SMMP-Female	Output 2.92mm-Male
100	0.12	38.07	37.71
1000	0.42	32.87	32.93
10000	1.28	32.41	30.73
15000	1.59	27.47	25.84
16000	1.63	36.67	29.30
18000	1.75	25.72	23.83
20000	1.85	29.99	26.43
24000	2.06	26.85	23.40
26000	2.15	30.29	24.08
30000	2.34	23.93	22.63
32000	2.41	32.56	26.93
36000	2.57	35.30	56.18
40000	2.74	38.19	38.55
40000	1.41	29.20	28.30





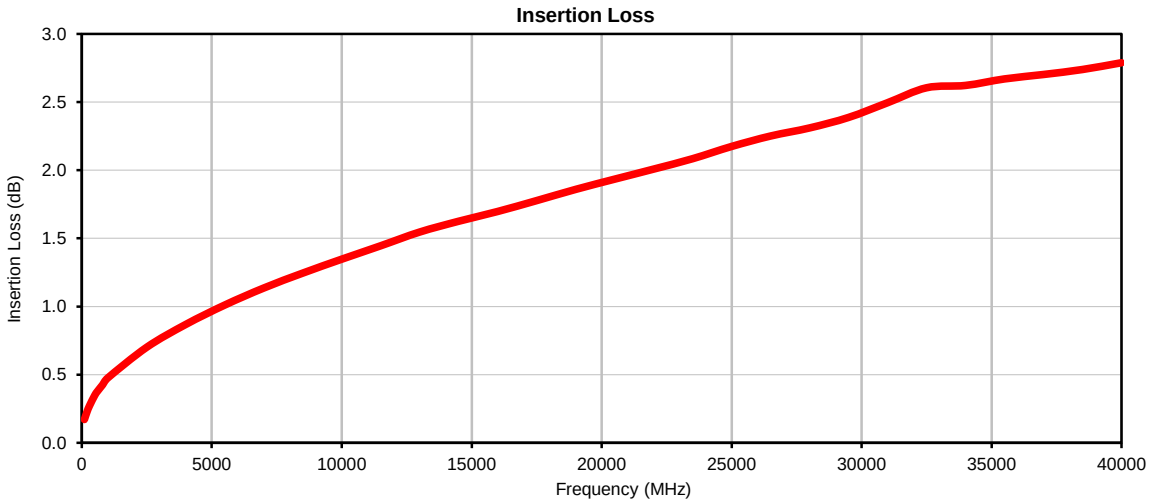
NOTES

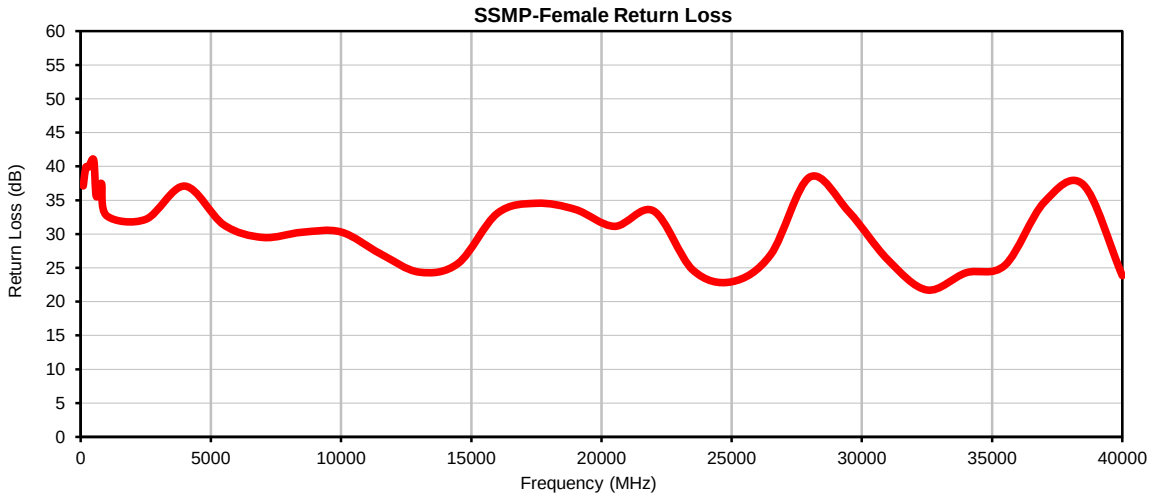
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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/terms/viewterm.html

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	SSMP-FEMALE RETURN LOSS (dB)	2.92mm-MALE RETURN LOSS (dB)
100	0.17	37.11	37.33
200	0.23	39.90	37.89
300	0.27	39.90	38.51
500	0.35	40.96	39.16
600	0.38	35.56	37.46
800	0.43	37.46	34.47
1000	0.48	32.70	34.00
2500	0.70	32.17	28.90
4000	0.87	37.08	28.97
5500	1.01	31.34	28.52
7000	1.14	29.49	27.78
8500	1.25	30.26	28.51
10000	1.35	30.30	31.35
11500	1.45	27.10	27.65
13000	1.55	24.37	23.61
14500	1.63	25.67	25.75
16000	1.70	33.06	35.21
17500	1.78	34.55	27.70
19000	1.86	33.63	26.91
20500	1.93	31.14	29.55
22000	2.01	33.41	32.23
23500	2.08	24.71	28.30
25000	2.17	22.94	22.89
26500	2.25	26.96	22.87
28000	2.31	38.42	26.29
29500	2.39	33.28	24.52
31000	2.50	26.18	20.66
32500	2.61	21.72	19.25
34000	2.62	24.27	23.44
35500	2.67	25.41	23.62
37000	2.70	34.70	25.15
38500	2.74	37.30	37.42
40000	2.79	23.85	37.13

Typical Performance Curves



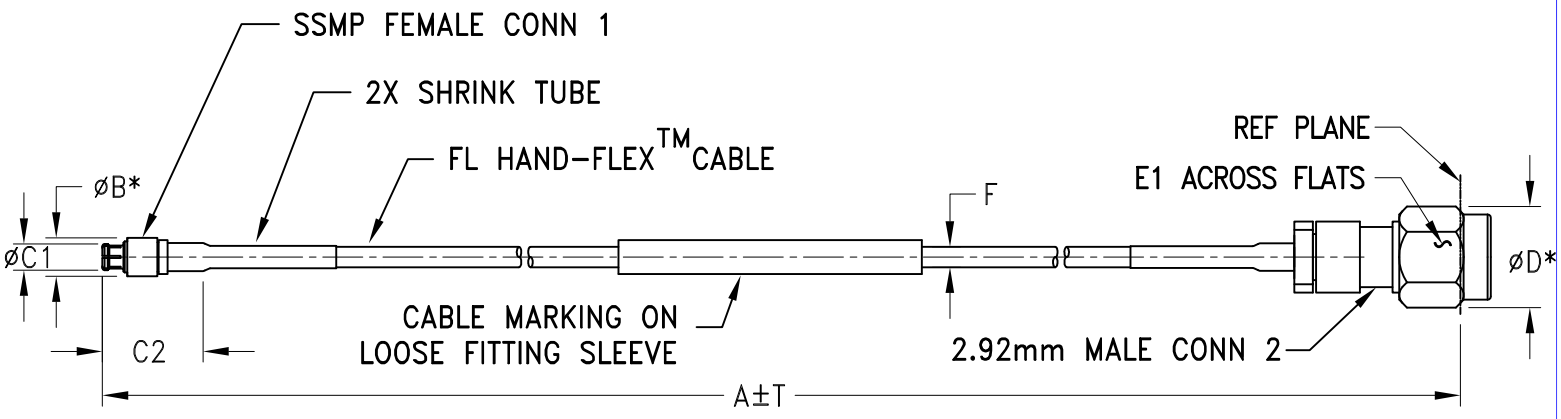


Case Style

UL

Outline Dimensions

UL3034



UL3034 SERIES
SSMP FEMALE (CONN 1)
2.92 MM MALE (CONN 2)

CASE STYLE #	A		B	C1	C2	D	E1	E2	F		T		WT.
	INCH	MM							FL47U-ASSMPKM+ (UN-JACKETED)	FL47-ASSMPKM+ (JACKETED)	INCH	MM	(GRAMS)
UL3034-6	6.00	157.40									.05	1.27	5.49
UL3034-12	12.00	304.80	.14	.093	.303	.36	.315	–	.046±.004	.055±.004	.10	2.54	6.33
			[3.56]	[2.36]	[7.70]	[9.14]	[8.00]	–	[1.17±0.1]	[1.40±0.1]			

Unless otherwise specified dimensions are in inches (mm).
Tolerances: 2 Pl.±**.03**; 3 Pl. ±**.015**

Note:
1. 047 Flexible Coaxial Cable.
2. "A" Represents Length of Cable.

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RF/IF MICROWAVE COMPONENTS

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Mini-Circuits

Environmental Specifications ENV97

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

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