FLEXIBLE

Coaxial Cable

FL086-12KM+

50Ω 12 inch DC to 40 GHz 2.92 mm Male

THE BIG DEAL

- Wideband Frequency Coverage, DC to 40 GHz
- Low Insertion Loss, 1.5 dB Typ. up to 40 GHz
- Excellent Return Loss, 28 dB Typ. up to 40 GHz
- 6 mm Bend Radius for tight installations
- Insulated Outer Jacket Standard
- Connector Interface, Meets MIL-STD-348
- Ideal for Interconnect of Assembled Systems



Generic photo used for illustration purposes only

Model No.	FL086-12KM+
Case Style	SE2929-12
Connectors	2.92 mm Male

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

APPLICATIONS

- Replacement for custom bent 0.086" semi-rigid cables
- Communication Receivers and Transmitters
- Military and Aerospace Systems
- Environmental and Test Chambers
- Test Accessory

PRODUCT OVERVIEW

The FL086 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, silver plated, which minimizes signal leakage and at the same is time flexible for easy bending. Dielectric is low loss PTFE. Connectors have brass coupling nut over nickel plated body with a gold plated brass center conductor. The FL086 Series Flexible cables are available in variety of length to meet your requirements.

KEY FEATURES

Feature	Advantages
Flexible RF Cables	The FL086 Series Flexible cables are ideal for use integrating coaxial components and sub-assemblies without the need for special cable-bending tools and alleviating the risk of damage during the bending process typical of semi-rigid coaxial cable assemblies.
Tight Bend Radius	Capable of only 6 mm bend radius, the FL086 Flexible series is able to make connections in tight spaces making these cables ideal for dense system integration
Excellent Return Loss	The FL086 Series Flexible Cables are ideally suited for interconnecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors.
Good Power Handling Capability • 198 W at 0.5 GHz • 13 W up to 40 GHz	Mini-Circuits FL086 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.

REV. B
ECO-024953
FL086-12KM+
MCL NY
250527

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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–6	-	0.4	0.9	dB
	6–18	-	0.8	1.6	
	18–26.5	-	1.2	2.0	
	26.5–40	-	1.5	2.5	
Return Loss	DC–18	19	31	-	dB
	18–40	17	28	-	

1. Custom sizes available, consult factory.

ABSOLUTE MAXIMUM RATINGS[2]

Parameter	Ratings
Operating Temperature	-55 °C to +105 °C
Storage Temperature	-55 °C to +105 °C
Power Handling at +25 °C, Sea Level	198 W at 0.5 GHz 140 W at 1 GHz 99 W at 2 GHz 57 W at 6 GHz 45 W at 10 GHz 33 W at 18 GHz 16 W at 26.5 GHz 13 W up to 40 GHz

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

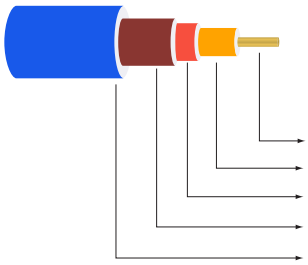
FLEXIBLE

Coaxial Cable

FL086-12KM+

50Ω 12 inch DC to 40 GHz 2.92 mm Male

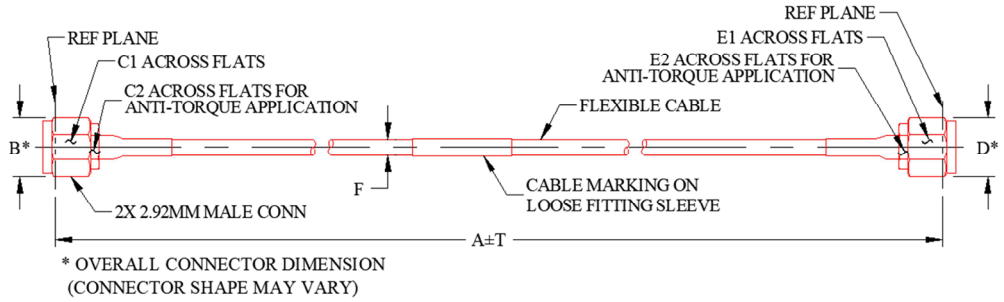
CABLE CONSTRUCTION



Center Conductor: Silver Plated Copper Clad Steel
Dielectric: Solid PTFE
Inner Shield: Silver Plated Copper Strip
Outer Shield: Silver Plated Copper Braid
Jacket: FEP, Blue
(Unjacketed cable also available upon request)

Connectors:
Coupling Nut: Stainless Steel Passivated
Body: Stainless Steel Gold Plated
Center Pin: Brass, Gold Plated

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch / mm)

A	B	C1	C2	D	E1	E2	T	wt
12.0	.36	.315	--	.36	.315	--	0.1	grams
304.80	9.14	8.00	--	9.14	8.00	--	2.54	12.00

FLEXIBLE

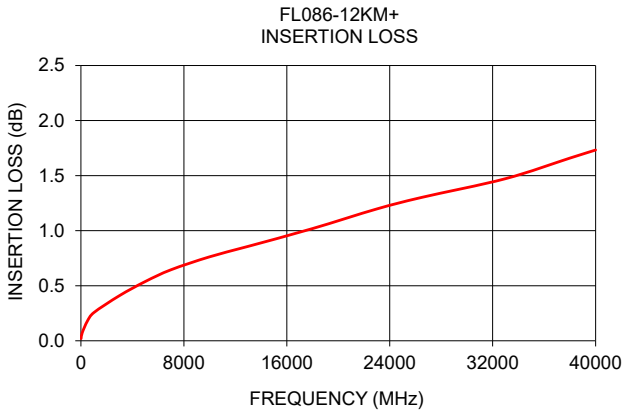
Coaxial Cable

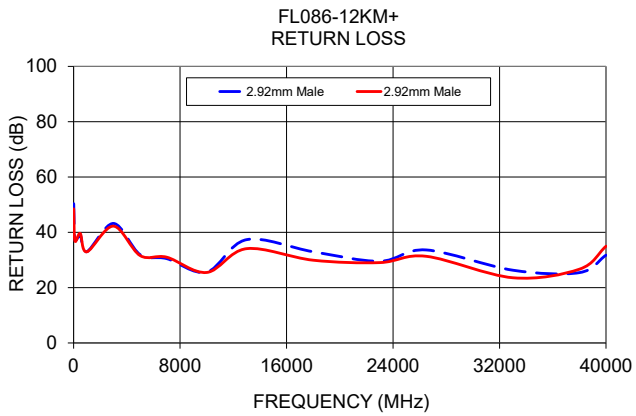
FL086-12KM+

50Ω 12 inch DC to 40 GHz 2.92 mm Male

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		2.92 mm Male	2.92 mm Male
10	0.02	50.34	48.48
100	0.07	37.29	36.93
500	0.18	38.93	39.58
1000	0.26	33.03	32.96
3000	0.41	43.21	42.25
5000	0.54	31.92	31.59
7000	0.64	30.49	31.00
10000	0.76	25.64	25.49
13000	0.86	37.36	34.10
18000	1.02	32.98	29.92
23000	1.20	29.54	29.05
26500	1.30	33.63	31.33
33000	1.47	26.30	23.57
38000	1.66	25.43	26.67
40000	1.73	31.74	34.98





NOTES

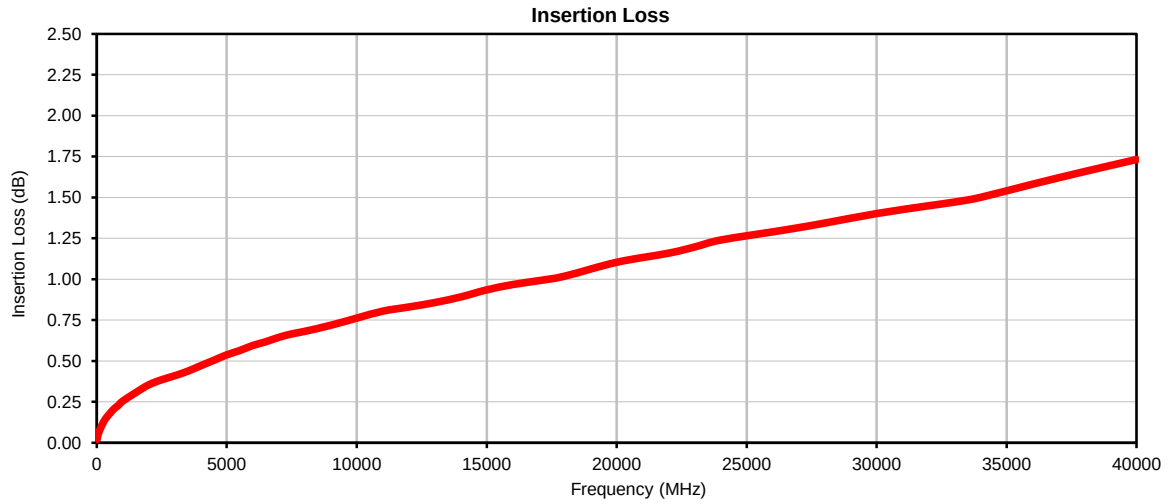
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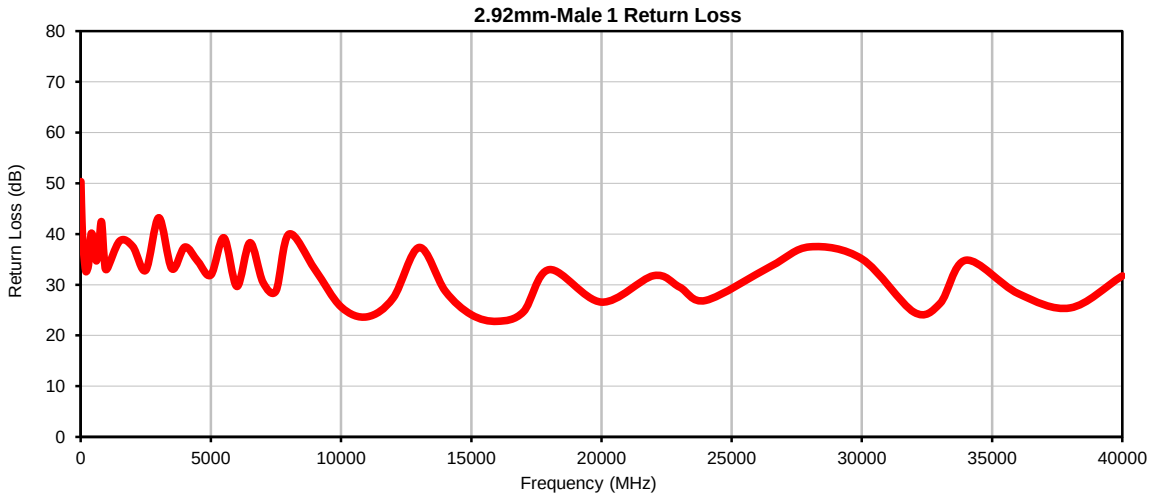
Flexible Coaxial Cable, 2.92mm-M/2.92mm-M FL086-12KM+

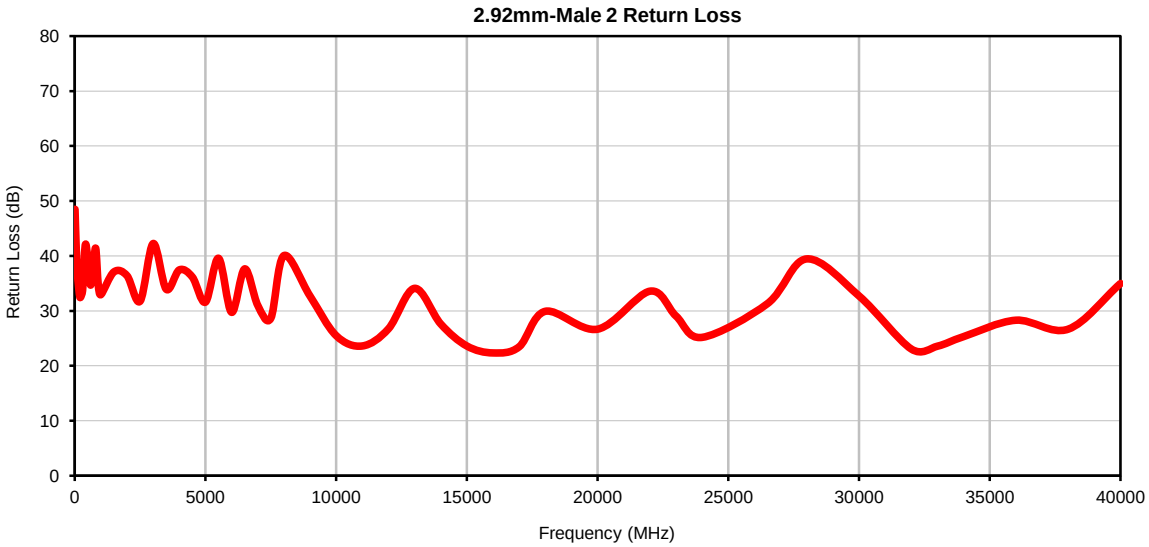
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	2.92mm-MALE 1 RETURN LOSS (dB)	2.92mm-MALE 2 RETURN LOSS (dB)
10	0.02	50.34	48.48
50	0.05	42.43	42.35
100	0.07	37.29	36.93
200	0.11	32.61	32.45
300	0.14	33.87	33.70
400	0.16	40.02	41.91
500	0.18	38.93	39.58
600	0.20	34.70	34.72
700	0.21	37.99	37.41
800	0.23	42.43	41.39
900	0.24	35.49	34.63
1000	0.26	33.03	32.96
1500	0.31	38.62	37.10
2000	0.35	37.54	36.39
2500	0.39	32.85	31.76
3000	0.41	43.21	42.25
3500	0.44	33.17	33.93
4000	0.47	37.43	37.45
4500	0.50	34.61	36.14
5000	0.54	31.92	31.59
5500	0.56	39.25	39.57
6000	0.60	29.66	29.74
6500	0.62	38.29	37.64
7000	0.64	30.49	31.00
7500	0.67	28.78	28.66
8000	0.68	39.98	40.06
9000	0.72	32.99	32.69
10000	0.76	25.64	25.49
11000	0.81	23.68	23.61
12000	0.83	27.38	26.73
13000	0.86	37.36	34.10
14000	0.89	28.75	27.61
15000	0.94	24.10	23.60
16000	0.97	22.79	22.35
17000	0.99	24.64	23.46
18000	1.02	32.98	29.92
20000	1.10	26.58	26.67
22000	1.16	31.79	33.58
23000	1.20	29.54	29.05
24000	1.24	26.90	25.18
26500	1.30	33.63	31.33
28000	1.34	37.46	39.46
30000	1.40	35.09	32.71
32000	1.45	24.59	23.05
33000	1.47	26.30	23.57
34000	1.50	34.84	25.31
36000	1.58	28.26	28.30
38000	1.66	25.43	26.67
40000	1.73	31.74	34.98

Typical Performance Curves



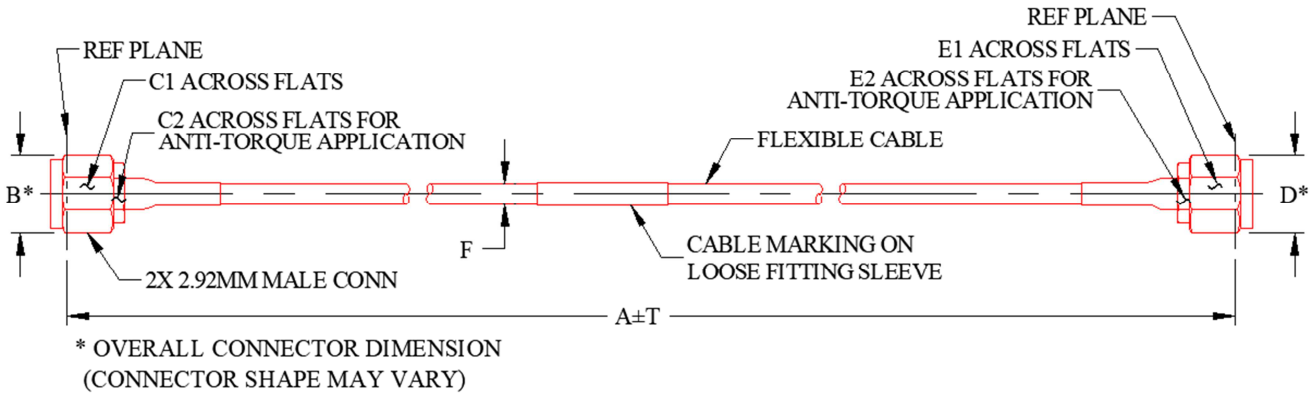




Case Style SE

Outline Dimensions

SE2929



SE2929 SERIES
2.92MM MALE (CONN)

CASE STYLE #	A		B	C1	C2	D	E1	E2	F	T		WEIGHT GRAMS
	INCH	MM							FL086-AKM+	INCH	MM	
SE2929-3	3.00	76.20	.36 (9.14)	.315 (8.00)	.250 (6.35)	.36 (9.14)	.315 (8.00)	.250 (6.35)	.106±.004 (2.64±0.1)	.05	1.27	8.95
SE2929-4	4.00	101.60								.05	1.27	9.40
SE2929-6	6.00	152.40								.05	1.27	10.30
SE2929-12	12.00	304.80								.10	2.54	11.20
SE2929-18	18.00	457.20								.15	3.81	15.70
SE2929-24	24.00	609.60								.15	3.81	18.40
SE2929-60	60.00	1524.00								.40	10.16	34.60

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

Note:

1. 086 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 ENV98

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 105°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 105°C, 25 cycles	MIL-STD-202F: Method 107G
Multiple Bend Radius	40mm, 5 times for FL141 series cables 30 mm, 5 times for FL086 series cables	
Single Bend Radius	10 mm for FL141 series cables 6 mm for FL086 series cables	

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