Flexible

Coaxial Cable

FL086 Model Series

50Ω DC to 18 GHz



CASE STYLE: SE2635-XX

XX= cable length in inches

The Big Deal

- Flexible
- Tight Bend Radius, 6mm
- Excellent Return Loss and Insertion Loss
- Ideal for interconnect of assembled systems

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, tin soaked, which minimizes signal leakage and at the same time flexible for easy bend. Dielectric is low loss PTFE. SMA-Male connector have passivated stainless-steel coupling nut over a gold plated body with a gold plated brass center conductor. N-Male connector have brass coupling nut over a Nickle 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: 6mm	Capable of only 6mm 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 • 25 dB typ. at 6 GHz • 21 dB typ. at 18 GHz	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: • 57W at 0.5 GHz • 33W at 18 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.

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

Flexible

Coaxial Cable

FL086-12SMNM+

50Ω 12 inch DC to 18 GHz



CASE STYLE: SE2635-12

Connectors	Model
SMA-Male - N-Male	FL086-12SMNM+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 105°C		
Storage Temperature	-55°C to 105°C		
Power Handling at 25°C, Sea Level	198W	at	0.5 GHz
	140W	at	1 GHz
	99W	at	2 GHz
	57W	at	6 GHz
	45W	at	10 GHz
	33W	at	18 GHz

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

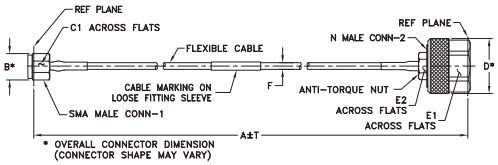
Features

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.95 dB typ. at 18 GHz
- Excellent Return Loss, 21 dB typ. at 18 GHz
- Flexible
- 6mm bend radius for tight installations
- Insulated outer jacket standard
- Connector interface, meets MIL-STD-348
- **Ideal for interconnect of assembled systems**

Applications

- Replacement for custom bent 0.086" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace systems
- Environmental and test chambers
- Test accessory

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C1	C2	D	E1
12.0	.36	.313	--	.88	.750
304.80	9.14	7.95	--	22	19.05

E2	F	T	wt
.375	0.106±.004	0.1	grams
9.5	2.64±0.1	2.54	42.92

Cable Construction



Center Conductor: *Silver Plated Copper Clad Steel*

Dielectric: *Fine Powder PTFE*

Inner Shield: *Silver Plated Copper Tape*

Outer Shield: *Silver Plated Copper Braid*

Jacket: *FEP, Blue*
(Unjacketed cable also availabe upon request)

SMA-Male Connector:
- Coupling Nut: *Stainless Steel Passivated*
- Body: *Stainless Steel Gold Plated*
- Center Pin: *Brass, Gold Plated*

N-Male Connector:
- Coupling Nut: *Brass, Nickel Plated*
- Body: *Brass, Nickel Plated*
- Center Pin: *Brass, Gold Plated*

Electrical Specifications at 25°C

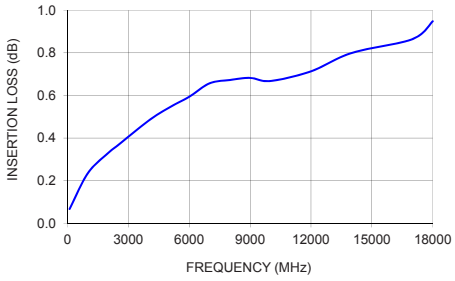
Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		18	GHz
Length[1]			12		inches
Insertion Loss	DC - 2	—	0.2	0.6	dB
	2 - 6	—	0.4	1.0	
	6 - 10	—	0.6	1.3	
	10 - 18	—	0.7	1.7	
Return Loss	DC - 2	23	43	—	dB
	2 - 6	23	40	—	
	6 - 10	18	28	—	
	10 - 18	18	25	—	

1. Custom sizes available, consult factory.

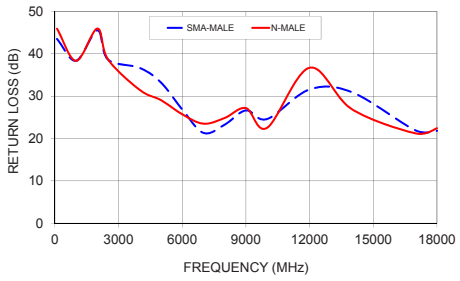
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		SMA-Male	N-Male
100	0.07	43.5	45.9
1000	0.23	38.4	38.3
2000	0.33	45.5	45.9
2500	0.37	38.6	38.7
4000	0.48	36.7	31.5
5000	0.54	33.2	29.0
6000	0.59	26.9	25.7
7000	0.66	21.3	23.5
8000	0.67	23.3	24.9
9000	0.68	26.6	27.2
10000	0.67	24.6	22.5
12000	0.71	31.6	36.7
14000	0.80	30.9	26.9
17000	0.86	21.9	21.2
18000	0.95	21.8	22.4

FL086-12SMNM+
INSERTION LOSS



FL086-12SMNM+
RETURN LOSS



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