HAND FLEX™

Coaxial Cable

086-10SMPR+

50Ω 10 inch DC to 18 GHz Right-Angle SMP Female (Snap-on)

THE BIG DEAL

- Wideband frequency coverage, DC to 18 GHz
- Low Insertion Loss, 0.6 dB to 18 GHz
- Excellent Return Loss, 25 dB to 18 GHz
- Hand formable to almost any custom shape without special bending tools
- 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.	086-10SMPR+
Case Style	KP2131-10
Connectors	Right-Angle SMP Female (Snap-on)

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

APPLICATIONS

- Communication Receivers and Transmitters
- Military and Aerospace Systems
- Environmental Test Chambers

PRODUCT OVERVIEW

086-SMPR+ Series Hand-Flex™ interconnect cables are ideal for interconnecting coaxial components and sub-assemblies in a wide range of systems. Rugged, hand-formable cable construction provides a minimum bend radius of 6 mm to accommodate tight layouts without the need for bending tools, adapters or brackets. The connector interface meets MIL-STD-348 requirements and an insulated outer jacket protects against wear and tear. 086-SMPR+ Series Hand-Flex™ cables are available in a variety of lengths to meet your requirements.

KEY FEATURES

Feature	Advantages
Hand-Formable RF Cables	Facilitates interconnection of assembled systems without the need for special cable-bending tools or adapters. Reduces the risk of damage during bending.
Tight Bend Radius	Capable of 6 mm bend radius, the 086 Hand-Flex™ series is able to make connections in tight spaces making these cables ideal for dense system integration.
Right-Angle SMP-F Blind Mate Snap-On Connectors	Ideal for interconnect of adjacent modules with tight space constraints without sacrificing high-frequency performance due to severe bend near the connector interface.
Excellent Return Loss	Minimizes VSWR ripple contribution due to mating cables and connectors.
Low Insertion Loss	Minimizes overall signal path loss.
Good Power Handling Capability: • 87 W at 0.5 GHz • 15 W at 18 GHz	Supports medium to high RF power levels used in transmit paths.

REV. A
ECO-017668
086-10SMPR+
MCL NY
260520

ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length[1]			10		inches
Insertion Loss	DC - 2	—	0.21	0.5	dB
	2 - 6	—	0.44	0.9	
	6 - 10	—	0.64	1.2	
	10 - 18	—	0.83	1.6	
Return Loss	DC - 2	20.3	41	—	dB
	2 - 6	20.3	29	—	
	6 - 10	16	26	—	
	10 - 18	16	24	—	

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	87 W at 0.5 GHz 85 W at 1 GHz 81 W at 2 GHz 65 W at 6 GHz 48 W at 10 GHz 15 W at 18 GHz

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

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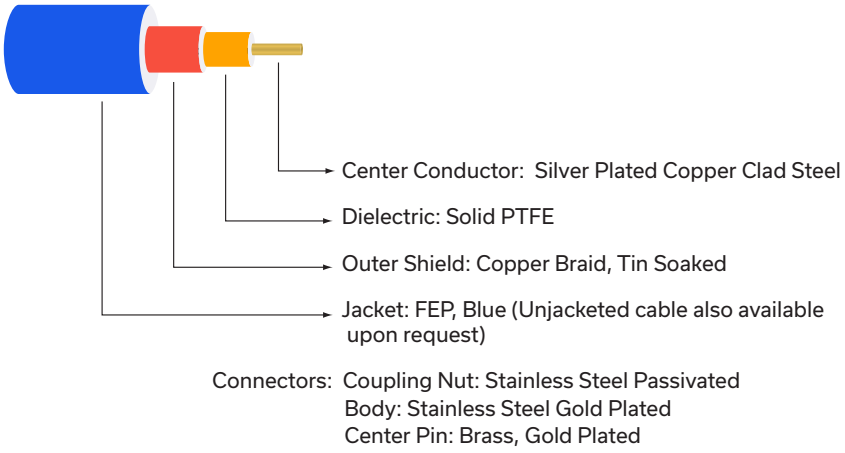
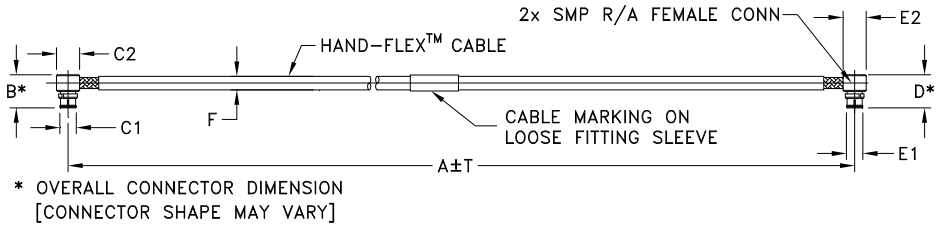
CABLE CONSTRUCTION



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	F	T		wt
10.0	.27	.135	.19	.27	.135	.19	.108 NOM	INCH	MM	grams
254.00	6.86	3.43	4.83	6.86	3.43	4.8	2.74 NOM	0.1	2.54	5.57

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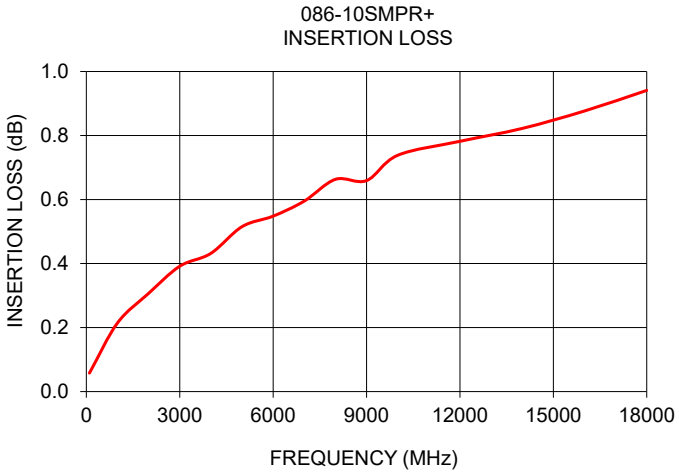
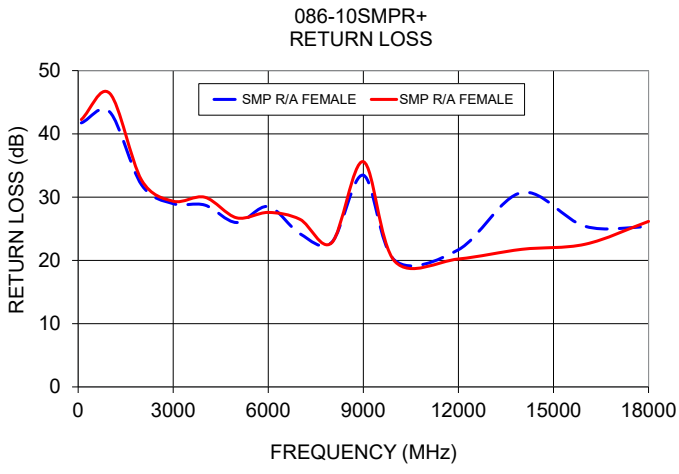
TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Right Angle SMP - Female	Right Angle SMP - Female
100	0.06	41.73	42.26
1000	0.21	43.44	46.39
2000	0.31	31.95	32.70
3000	0.39	28.97	29.35
4000	0.43	28.74	29.98
5000	0.52	25.99	26.73
6000	0.55	28.51	27.58
7000	0.60	24.21	26.49
8000	0.66	22.85	22.77
9000	0.66	33.46	35.60
10000	0.74	19.96	19.80
12000	0.78	21.69	20.22
14000	0.82	30.73	21.75
16000	0.88	25.38	22.56
18000	0.94	25.30	26.16





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-Circuits' 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

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Right Angle SMP-Female to Right Angle SMP-Female

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RIGHT ANGLE SMP-FEMALE 1 RETURN LOSS (dB)	RIGHT ANGLE SMP-FEMALE 2 RETURN LOSS (dB)
10	0.01	49.79	51.47
100	0.06	41.73	42.26
200	0.09	42.34	43.69
300	0.11	47.74	48.32
400	0.13	51.41	46.70
500	0.15	53.70	48.13
600	0.16	59.99	55.18
700	0.18	44.44	43.26
800	0.19	40.54	39.91
900	0.20	40.95	41.43
1000	0.21	43.44	46.39
1100	0.23	39.55	40.40
1200	0.24	36.26	36.61
1300	0.25	35.94	36.32
1400	0.26	37.48	38.48
1500	0.26	36.43	38.21
1600	0.27	33.82	35.06
1800	0.29	35.14	34.48
2000	0.31	31.95	32.70
2500	0.35	30.12	30.59
3000	0.39	28.97	29.35
3500	0.41	29.78	29.18
4000	0.43	28.74	29.98
4500	0.47	26.97	28.73
5000	0.52	25.99	26.73
5500	0.54	26.43	26.17
6000	0.55	28.51	27.58
6500	0.56	28.17	31.14
7000	0.60	24.21	26.49
7500	0.64	21.91	22.48
8000	0.66	22.85	22.77
8500	0.65	29.29	29.20
9000	0.66	33.46	35.60
9500	0.69	23.48	23.24
10000	0.74	19.96	19.80
10500	0.74	20.80	20.44
11000	0.73	28.19	26.09
11500	0.75	31.00	24.91
12000	0.78	21.69	20.22
12500	0.79	19.44	19.11
13000	0.80	20.60	20.48
13500	0.81	26.80	20.76
14000	0.82	30.73	21.75
14500	0.85	21.22	19.79
15000	0.86	20.08	19.74
15500	0.86	21.07	21.37
16000	0.88	25.38	22.56
16500	0.89	40.50	24.69
17000	0.91	27.73	25.99
17500	0.92	25.41	25.80
18000	0.94	25.30	26.16

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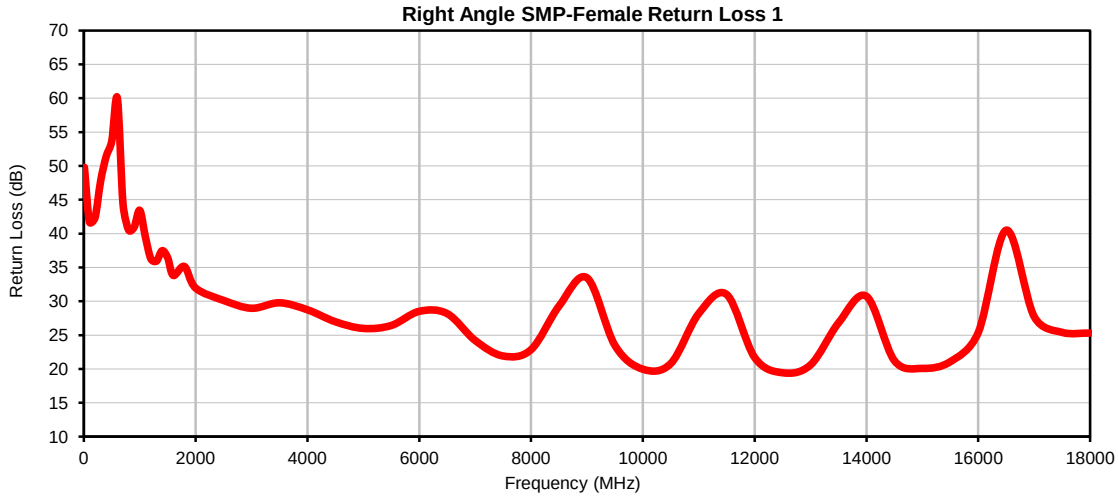
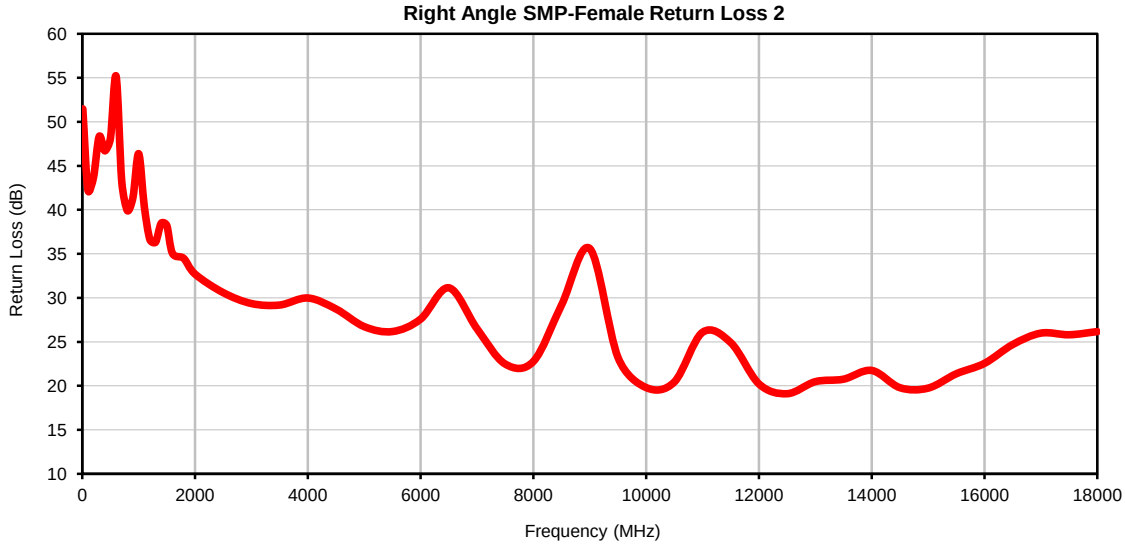
Right Angle SMP-Female to Right Angle SMP-Female





Mini-Circuits

Environmental Specifications **ENV52**

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 or -55° to 85° C (see datasheet) Ambient Environment	Individual Model Data sheet
Storage Temperature	-55° to 105° C or -55° to 85° C (see data sheet) Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 Cycles	MIL-STD-202F; Method 107G
Multiple Bend Radius	40 mm, 5 times for 141 series cables 30 mm, 5 times for 086 series cables	
Single Bend Radius	8 mm for 141 series cables 6 mm for 086 series cables	