HAND FLEX™

Coaxial Cable

086-10SMP+

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

THE BIG DEAL

- Wideband frequency coverage, DC to 18 GHz
- Low Insertion Loss, 0.5 dB typ. up to 18 GHz
- Excellent Return Loss, 30 dB typ. up 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.	086-10SMP+
Case Style	KP2093-10
Connectors	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-SMP+ 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-SMP+ 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.
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
086-10SMP+
MCL NY
260520

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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	—	0.24	0.5	dB
	2–6	—	0.57	0.9	
	6–10	—	0.82	1.2	
	10–18	—	1.05	1.7	
Return Loss	DC2	20	39	—	dB
	2–6	20	32	—	
	6–10	17	31	—	
	10–18	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	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.

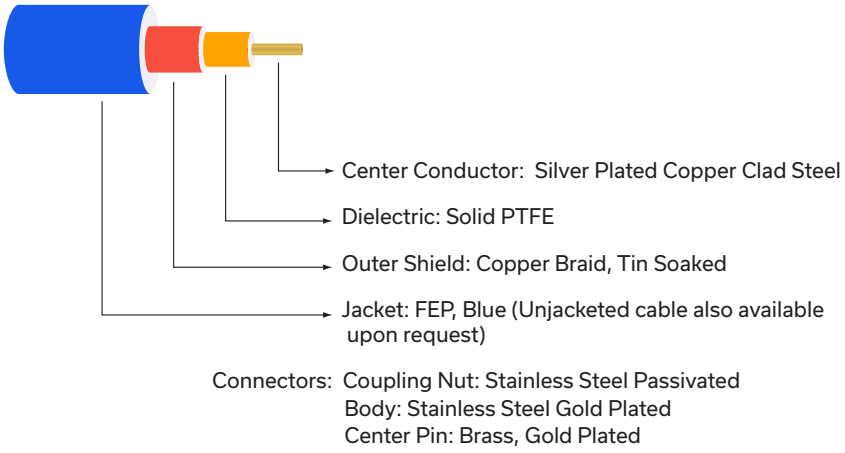
HAND FLEX™

Coaxial Cable

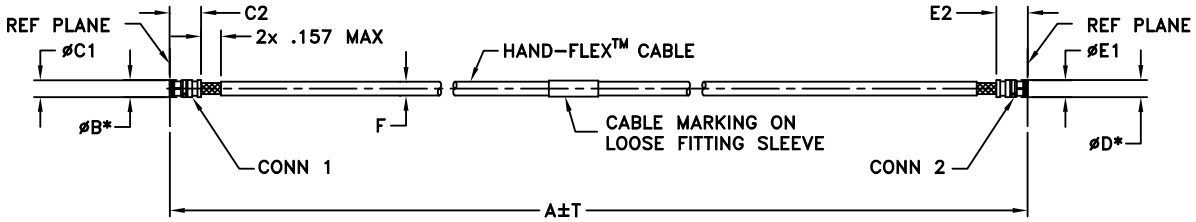
086-10SMP+

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

CABLE CONSTRUCTION



OUTLINE DRAWING



* OVERALL CONNECTOR DIMENSION [CONNECTOR SHAPE MAY VARY]

OUTLINE DIMENSIONS (Inch / mm)

A	B	C1	C2	D	E1	E2	F	T	wt
10.0	.14	.135	.252	.14	.135	.252	.108	0.1	grams
254.00	3.56	3.43	6.40	3.56	3.43	6.40	2.75	2.54	5.07

HAND FLEX™

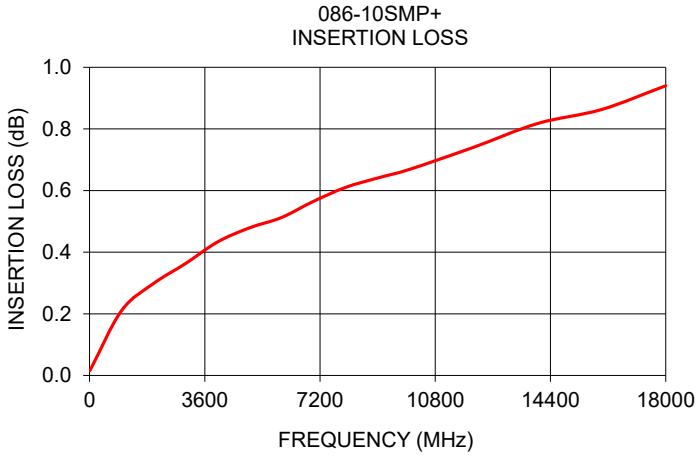
Coaxial Cable

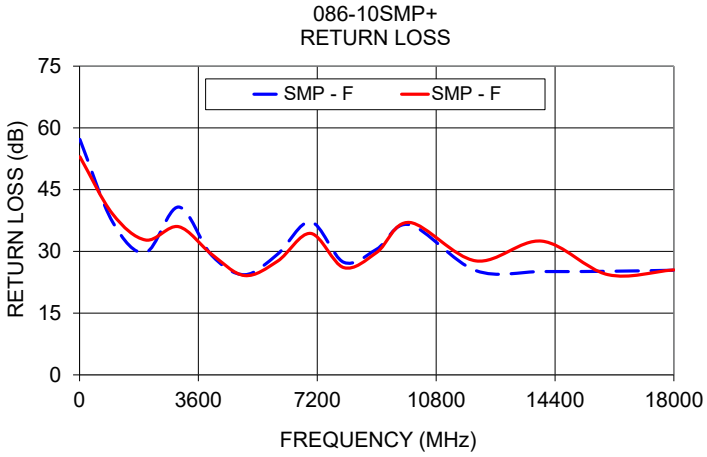
086-10SMP+

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

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		SMP - Female	SMP - Female
10	0.02	57.20	52.99
1000	0.21	37.17	39.10
2000	0.30	29.73	32.76
3000	0.36	40.78	36.00
4000	0.43	29.05	29.31
5000	0.48	24.33	24.13
6000	0.51	29.35	27.64
7000	0.57	37.20	34.37
8000	0.61	27.36	26.06
9000	0.64	30.54	29.74
10000	0.67	36.47	37.02
12000	0.74	25.33	27.70
14000	0.82	25.10	32.49
16000	0.86	25.16	24.35
18000	0.94	25.42	25.51





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

Hand-Flex Coaxial Cable 086-10SMP+

SMP-Female to SMP-Female

Typical Performance Data

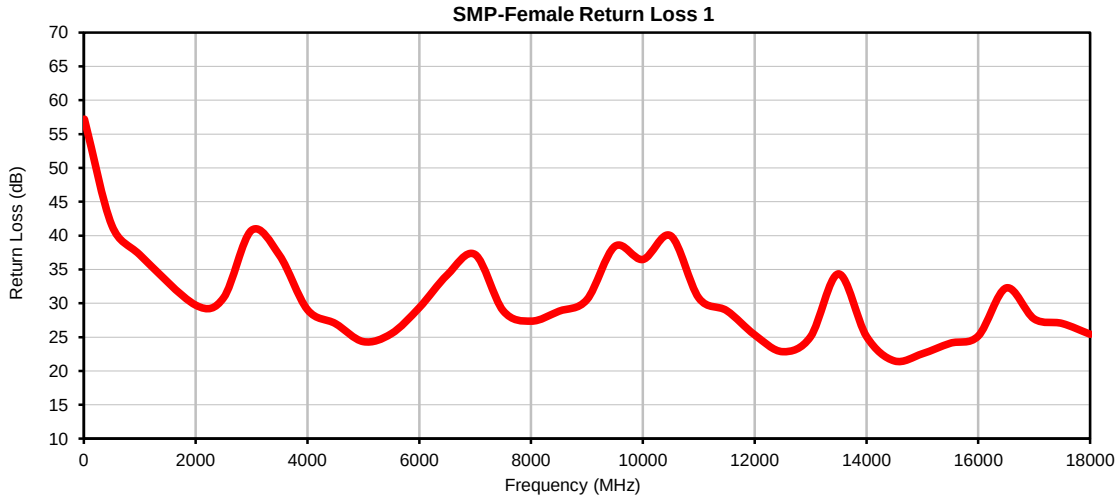
FREQUENCY (MHz)	INSERTION LOSS (dB)	SMP-FEMALE 1 RETURN LOSS (dB)	SMP-FEMALE 2 RETURN LOSS (dB)
10	0.02	57.20	52.99
500	0.14	41.53	42.72
1000	0.21	37.17	39.10
2000	0.30	29.73	32.76
2500	0.33	30.81	33.98
3000	0.36	40.78	36.00
3500	0.40	37.08	38.53
4000	0.43	29.05	29.31
4500	0.46	27.00	25.89
5000	0.48	24.33	24.13
5500	0.50	25.50	24.58
6000	0.51	29.35	27.64
6500	0.54	34.19	34.10
7000	0.57	37.20	34.37
7500	0.59	28.90	28.38
8000	0.61	27.36	26.06
8500	0.62	28.82	28.51
9000	0.64	30.54	29.74
9500	0.65	38.42	38.55
10000	0.67	36.47	37.02
10500	0.69	39.96	38.34
11000	0.71	30.79	38.05
11500	0.73	28.91	31.16
12000	0.74	25.33	27.70
12500	0.77	22.84	24.06
13000	0.77	25.05	24.57
13500	0.79	34.34	40.37
14000	0.82	25.10	32.49
14500	0.85	21.48	22.84
15000	0.85	22.54	20.62
15500	0.84	24.10	27.12
16000	0.86	25.16	24.35
16500	0.88	32.27	32.31
17000	0.89	27.69	30.17
17500	0.92	27.02	34.00
18000	0.94	25.42	25.51

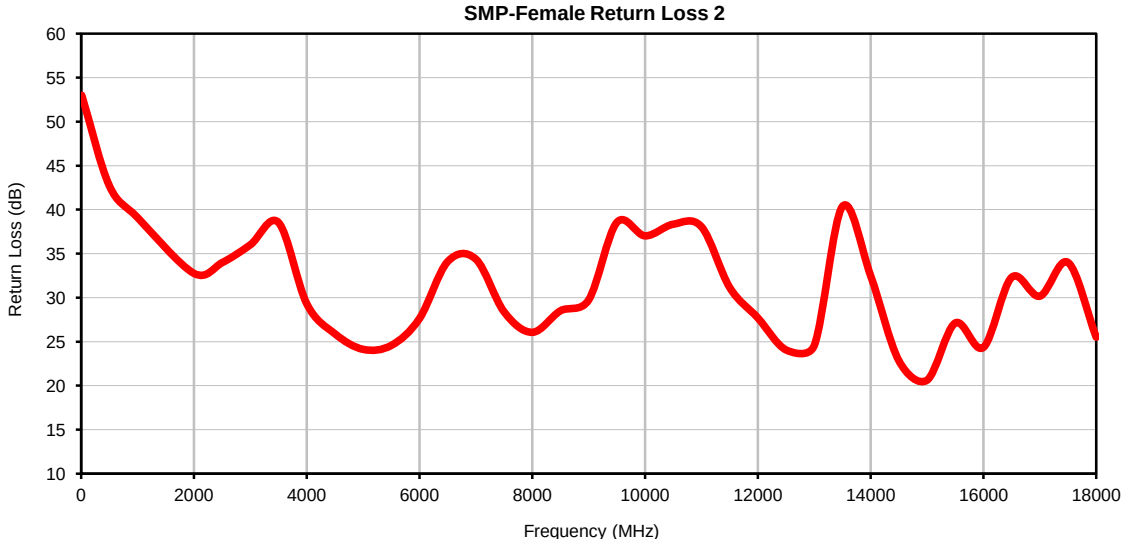
Hand-Flex Coaxial Cable 086-10SMP+

SMP-Female to SMP-Female

Typical Performance Curves



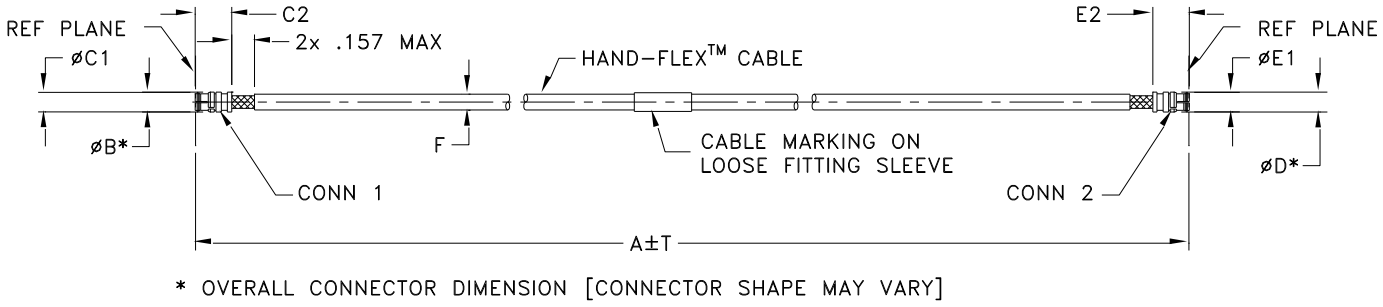




Case Style KP

KP2093

Outline Dimensions



KP2093 SERIES
SMP FEMALE (CONN-1)
SMP FEMALE (CONN-2)

CASE STYLE #	A		B	C1	C2	D	E1	E2	F		G	H	T		WEIGHT GRAMS
	INCH	MM							086U-ASMP+	086-ASMP+			INCH	MM	
KP2093-6	6.00	152.40	.14 (3.50)	.135 (3.43)	.252 (6.40)	.14 (3.50)	.135 (3.43)	.252 (6.40)	.091 MAX (2.31 MAX)	.123 MAX (3.12 MAX)	-- --	-- --	.05	1.27	3.24
KP2093-10	10.00	254.00									-- --	-- --	.10	2.54	5.07
KP2093-12	12.00	304.80									-- --	-- --	.10	2.54	5.98

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

Note:
1. 086 Hand-Flex™ Coaxial Cable.
2. "A" represents length of cable.

Mini-Circuits®
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