HAND FLEX™

Coaxial Cable

086-6SBMMCR+

50Ω 6 inch DC to 6 GHz SMA Female Bulkhead to Right-Angle MMCX Male

THE BIG DEAL

- Wideband frequency coverage, DC to 6 GHz
- Low Insertion Loss, 0.3 dB Typ. to 6 GHz
- Excellent Return Loss, 30 dB Typ. to 6 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.	086-6SBMMCR+
Case Style	KP2016-6
Connectors	SMA Female Bulkhead to Right-Angle MMCX 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

PRODUCT OVERVIEW

The 086 Series Hand-Flex™ Coaxial Cables are ideal for interconnection of coaxial components or sub-systems in tight spaces. The construction includes a silver-plated copper steel wire center conductor which maintains the shape after bending. 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 female connector has passivated stainless steel coupling nut over a gold-plated connector body and Beryllium copper over a gold-plated center contact. MMCX-M connector has gold-plated, brass body and center conductor. The 086 Series Hand-Flex cables are available in variety of length to meet your requirements.

KEY FEATURES

Feature	Advantages
Hand-Formable RF Cables	The 086 Series Hand-Flex™ cables are hand formable making them 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 086 Hand-Flex™ series is able to make connections in tight spaces making these cables ideal for dense system integration.
SMA Female bulkhead connector at one end	Mounts directly on equipment racks eliminating need for bulkhead adapter, thereby improving reliability.
MMCX-M blind Mate Right-angle push-on/snap-on	Quick connect/disconnect snap-on mating reduces installation time.
Excellent Return loss	The 086 Series Hand-Flex Cables are ideally suited for interconnecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors.

REV. A
ECO-017668
086-6SBMMCR+
MCL NY
240315

ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		6	GHz
Length[1]			6		inches
Insertion Loss	DC–2	—	0.1	0.4	dB
	2–4	—	0.3	0.7	
	4–6	—	0.3	0.7	
Return Loss	DC–2	17	38	—	dB
	2–4	17	25	—	
	4–6	17	21	—	

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	50 W at 2 GHz

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

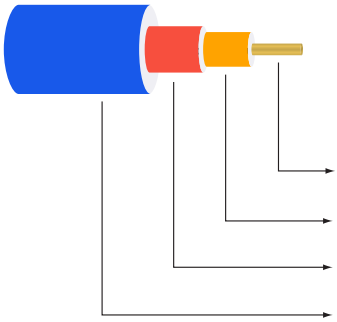
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CABLE CONSTRUCTION



Center Conductor: Silver Plated Copper Clad Steel

Dielectric: Solid PTFE

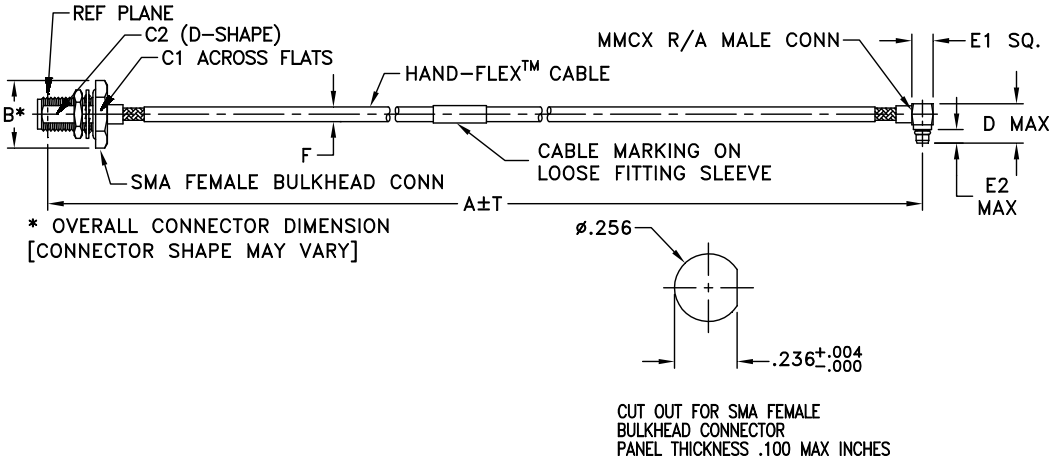
Outer Shield: Copper Braid, Tin Soaked

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

SMA-F Bulkhead Connector: Hex Nut: Stainless Steel Gold Plated Body: Stainless Steel Gold Plated Socket: BeCu, Gold Plated

MMCX-Male Connector: Body: Brass, Gold Plated Center Pin: Brass, Gold Plated

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch / mm)

A	B	C1	C2	D	E1	E2	F	T	wt
6.0	.51	.433	.232	.30	.158	.138	.108	0.05	grams
152.40	12.95	11.00	5.89	7.62	4.01	3.51	2.75	1.27	6.86

HAND FLEX™

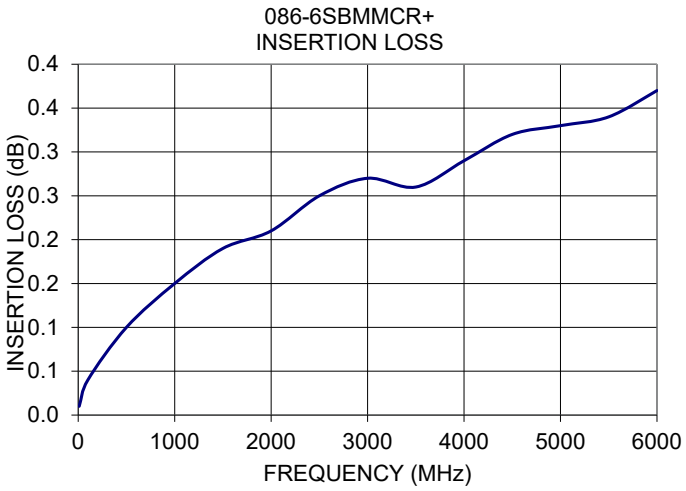
Coaxial Cable

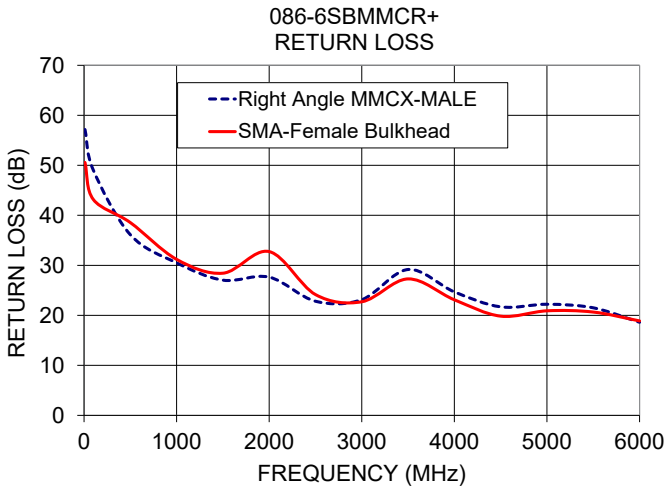
086-6SBMMCR+

50Ω 6 inch DC to 6 GHz SMA Female Bulkhead to Right-Angle MMCX Male

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Right-Angle MMCX Male	SMA Female Bulkhead
10	0.01	57.16	50.58
100	0.04	49.04	43.17
500	0.1	36.12	38.55
1000	0.15	30.5	31.19
1500	0.19	27.04	28.43
2000	0.21	27.64	32.75
2500	0.25	22.82	24.15
3000	0.27	23.14	22.72
3500	0.26	29.17	27.29
4000	0.29	24.69	23.11
4500	0.32	21.7	19.84
5000	0.33	22.22	20.91
5500	0.34	21.51	20.66
6000	0.37	18.62	18.89





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

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SMA-Female Bulkhead to Right Angle MMCX-Male

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	SMA-FEMALE BULKHEAD RETURN LOSS (dB)	RIGHT ANGLE MMCX-MALE RETURN LOSS (dB)
10	0.01	50.58	57.16
50	0.03	46.12	49.59
100	0.04	43.17	49.04
200	0.06	39.22	51.24
300	0.08	37.50	45.26
400	0.09	37.21	39.22
500	0.10	38.55	36.12
600	0.12	40.05	34.59
700	0.12	38.06	34.34
800	0.13	34.30	33.35
900	0.14	32.02	31.87
1000	0.15	31.19	30.50
1100	0.16	31.66	29.45
1200	0.16	33.53	29.23
1300	0.17	34.51	29.20
1400	0.18	31.54	28.57
1500	0.19	28.43	27.04
1600	0.20	26.58	25.67
1700	0.20	26.07	24.78
1800	0.21	27.03	24.94
1900	0.20	29.63	26.03
2000	0.21	32.75	27.64
2100	0.21	30.31	27.84
2200	0.22	26.41	25.78
2300	0.23	24.18	23.73
2400	0.24	23.45	22.67
2500	0.25	24.15	22.82
2600	0.24	26.38	24.13
2700	0.24	29.64	26.53
2800	0.24	28.67	27.68
2900	0.25	24.99	25.46
3000	0.27	22.72	23.14
3100	0.27	22.00	22.15
3200	0.27	22.72	22.48
3300	0.27	25.02	24.36
3400	0.26	28.32	27.86
3500	0.26	27.29	29.17
3600	0.28	23.62	25.50
3700	0.29	21.36	22.83
3800	0.30	20.62	21.88
3900	0.29	21.19	22.44
4000	0.29	23.11	24.69
4100	0.28	25.61	28.59
4200	0.29	25.24	28.74
4300	0.30	22.49	24.75
4400	0.31	20.55	22.41
4500	0.32	19.84	21.70
4600	0.31	20.31	22.52
4700	0.30	21.72	24.68
4800	0.30	23.08	26.50
4900	0.31	22.60	24.76
5000	0.33	20.91	22.22
5100	0.34	19.61	20.76
5200	0.34	19.21	20.44
5300	0.33	19.61	21.04
5400	0.33	20.42	21.77
5500	0.34	20.66	21.51
5600	0.35	19.86	20.12
5700	0.37	18.79	18.86
5800	0.37	18.20	18.32
5900	0.37	18.32	18.37
6000	0.37	18.89	18.62

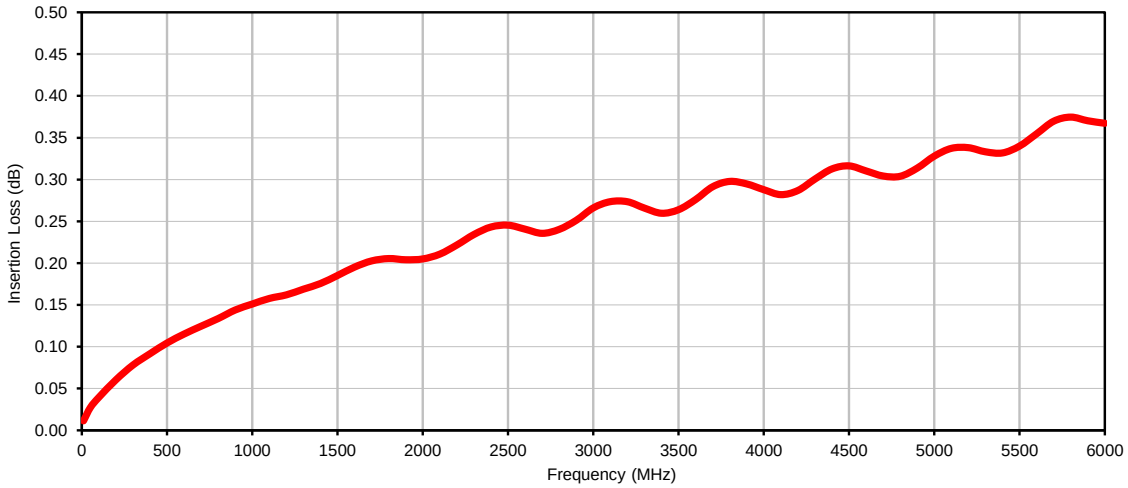
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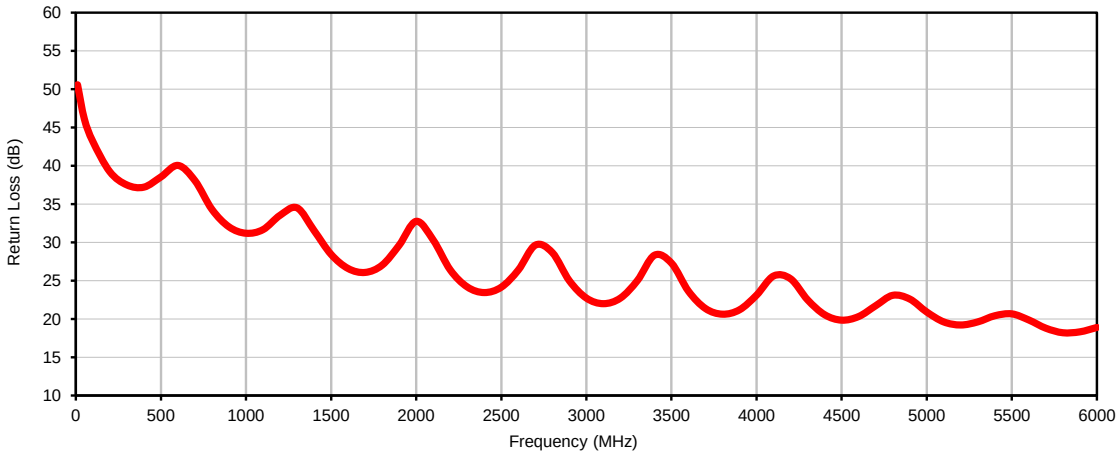
SMA-Female Bulkhead to Right Angle MMCX-Male

Typical Performance Curves

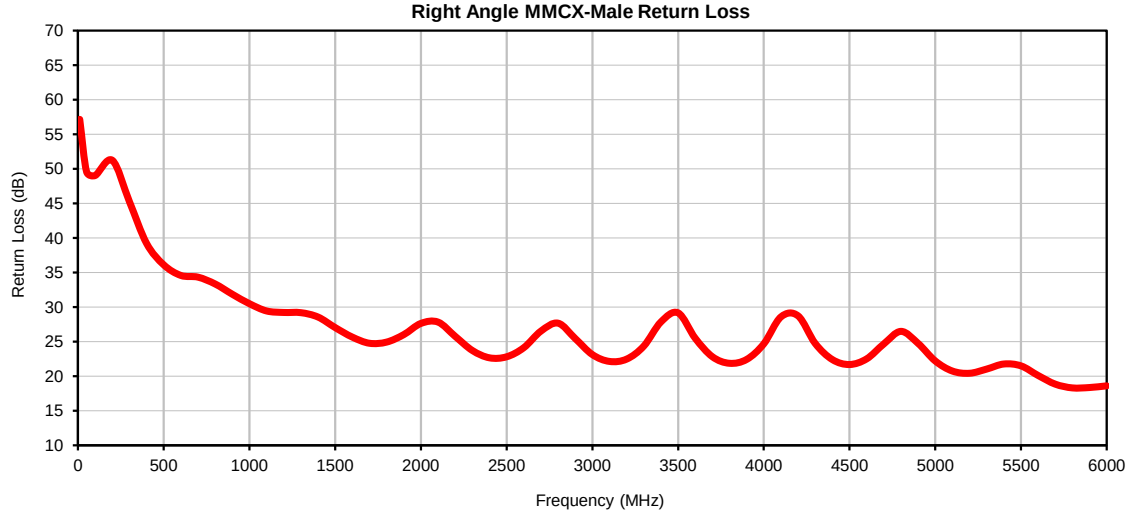
Insertion Loss



SMA-Female Bulkhead Return Loss



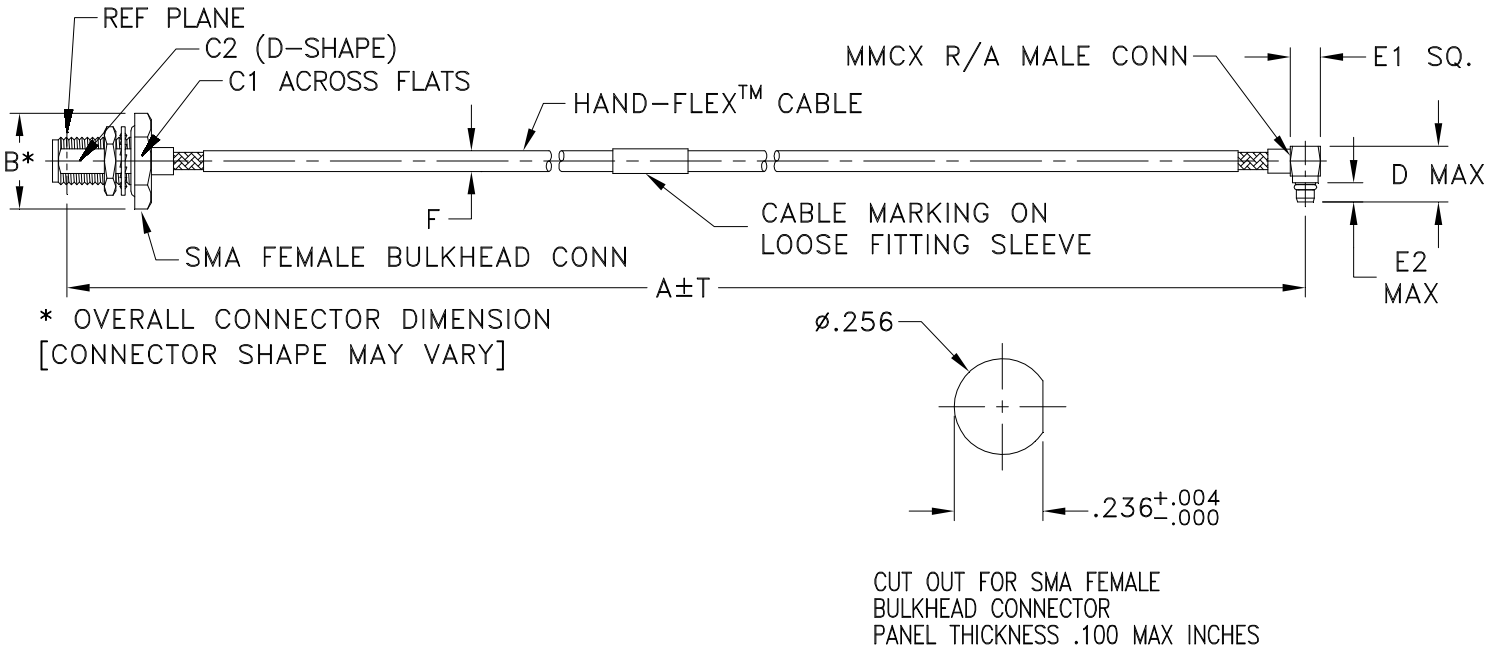
Right Angle MMCX-Male Return Loss



Case Style KP

KP2016

Outline Dimensions



KP2016 SERIES
BULKHEAD SMA FEMALE(CONN-1)
RIGHT ANGLE MMCX MALE(CONN-2)

CASE STYLE #	A		B	C1	C2	D	E1	E2	F		T		WEIGHT GRAMS
	INCH	MM							086U-ASBMMCR+	086-ASBMMCR+	INCH	MM	
KP2016-6	6.00	152.40	.51 (12.95)	.433 (11.03)	.232 (5.89)	.30 (7.50)	.158 (4.00)	.138 (3.50)	.089±.002 (2.26±.05)	.108 NOM (2.74 NOM)	.05	1.27	6.86

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.

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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	

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