



Mini-Circuits

COAXIAL

DC Block

BLK-89-S+

50Ω 0.1 MHz to 8000 MHz SMA-Female to SMA-Male

FEATURES

- Broadband performance
- Low Insertion loss
- Rugged unibody construction
- Off-the-shelf availability



Generic photo used for illustration purposes only

APPLICATIONS

- Test and Measurement Instrumentation
- Communication Systems
- Defense Systems

Model No.	BLK-89-S+
Case Style	FF888
Connectors	SMA-Female to SMA-Male

+RoHS Compliant

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

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		0.1		8000	MHz
Insertion Loss	0.1-100	—	0.010	0.09	dB
	100-1000	—	0.10	0.3	
	1000-4000	—	0.15	0.8	
	4000-8000	—	0.50	0.9	
Return Loss	0.1-100	20	40	—	dB
	100-1000	25	36	—	
	1000-4000	18	24	—	
	4000-8000	13	20	—	

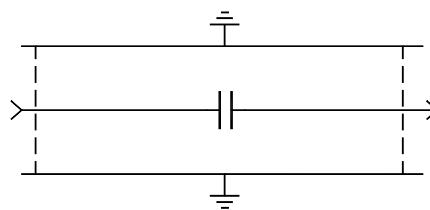
ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Case Temperature	-55 °C to +100 °C
Storage Temperature	-55 °C to +100 °C
DC Input Voltage	+50 V
RF Input Power*	4 W max. at +25 °C

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

* Derate linearly to 1W at 100 °C.

ELECTRICAL SCHEMATIC



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www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. G
ECO-021370
BLK-89-S+
MCL NY
240402

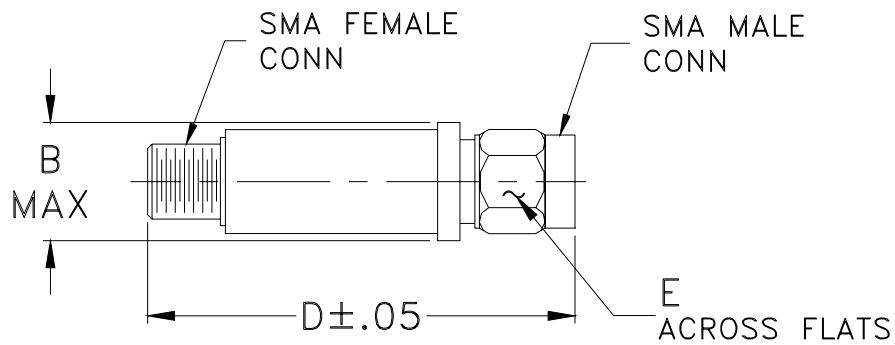
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COAXIAL CONNECTIONS

Port 1	SMA - Female
Port 2	SMA - Male

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inches) mm

	B	D	E	Weight Grams
inches	.410	1.18	.312	
mm	10.41	29.97	7.92	7.0



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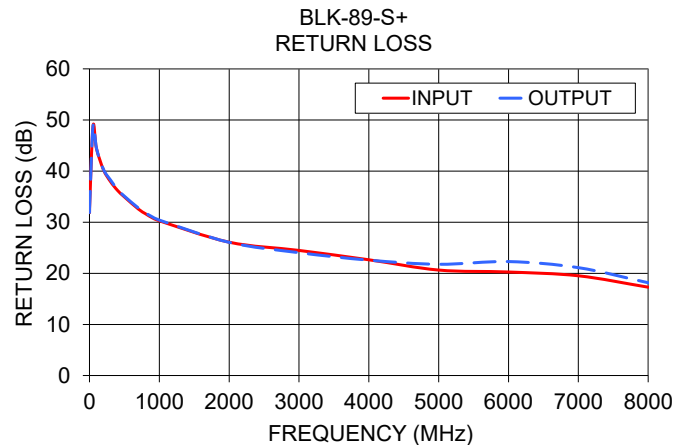
BLK-89-S+

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50Ω 0.1 MHz to 8000 MHz SMA-Female to SMA-Male

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Male	Female
0.3	0.01	31.86	31.89
0.6	0.01	32.19	32.23
0.9	0.01	32.52	32.58
1.0	0.01	32.63	32.69
50.0	0.02	48.75	48.76
100.0	0.03	44.40	44.44
200.0	0.04	40.26	40.33
300.0	0.05	37.96	38.27
400.0	0.06	36.24	36.45
500.0	0.06	34.94	35.08
700.0	0.07	32.57	32.78
800.0	0.08	31.67	31.84
900.0	0.08	30.86	31.04
1000.0	0.09	30.27	30.41
2000.0	0.12	26.09	26.06
3000.0	0.18	24.48	24.04
4000.0	0.24	22.65	22.58
5000.0	0.41	20.64	21.77
6000.0	0.47	20.26	22.30
7000.0	0.42	19.52	21.11
8000.0	0.51	17.29	18.16



NOTES

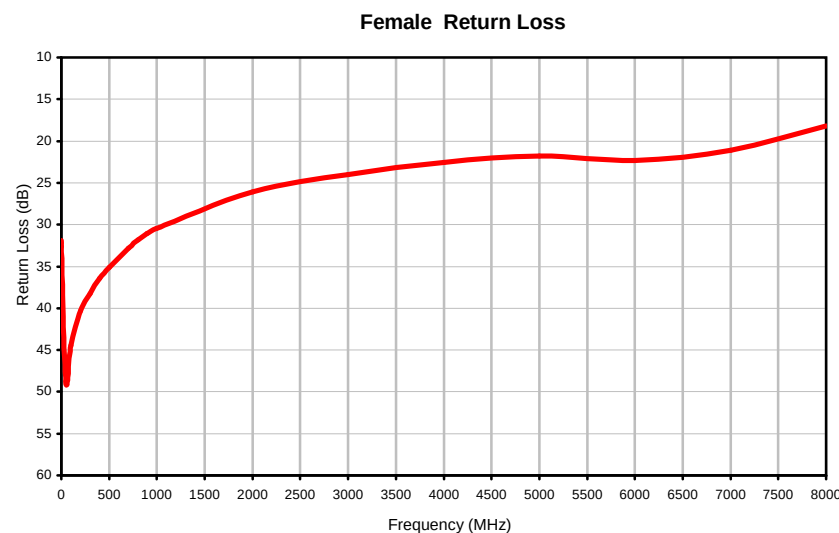
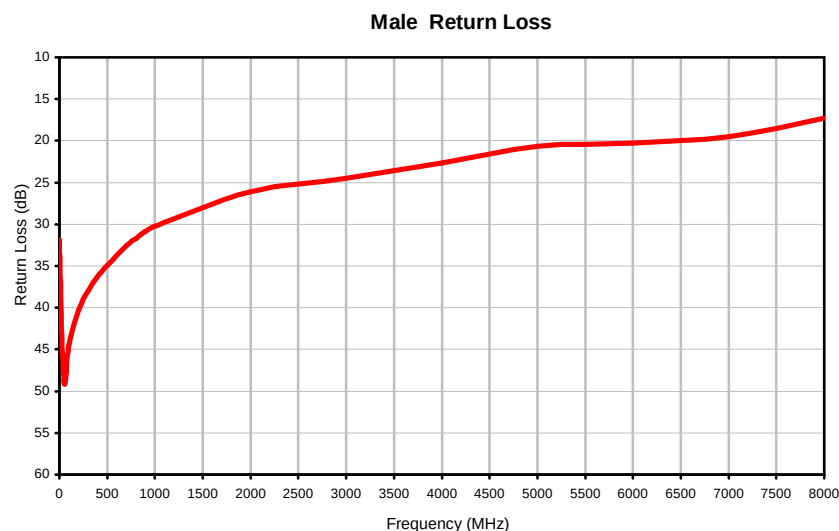
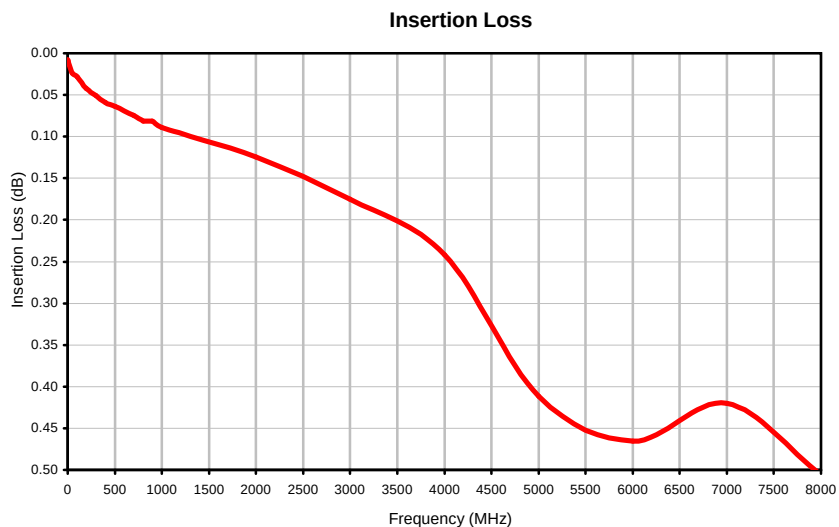
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- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document 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/terms/viewterm.html



Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	MALE RETURN LOSS (dB)	FEMALE RETURN LOSS (dB)
0.3	0.01	31.86	31.89
0.6	0.01	32.19	32.23
0.9	0.01	32.52	32.58
1	0.01	32.63	32.69
50	0.02	48.75	48.76
100	0.03	44.40	44.44
200	0.04	40.26	40.33
300	0.05	37.96	38.27
400	0.06	36.24	36.45
500	0.06	34.94	35.08
700	0.07	32.57	32.78
800	0.08	31.67	31.84
900	0.08	30.86	31.04
1000	0.09	30.27	30.41
2000	0.12	26.09	26.06
3000	0.18	24.48	24.04
4000	0.24	22.65	22.58
5000	0.41	20.64	21.77
6000	0.47	20.26	22.30
7000	0.42	19.52	21.11
8000	0.51	17.29	18.16

Typical Performance Curves



REV. X1
BLK-89-S+
061115
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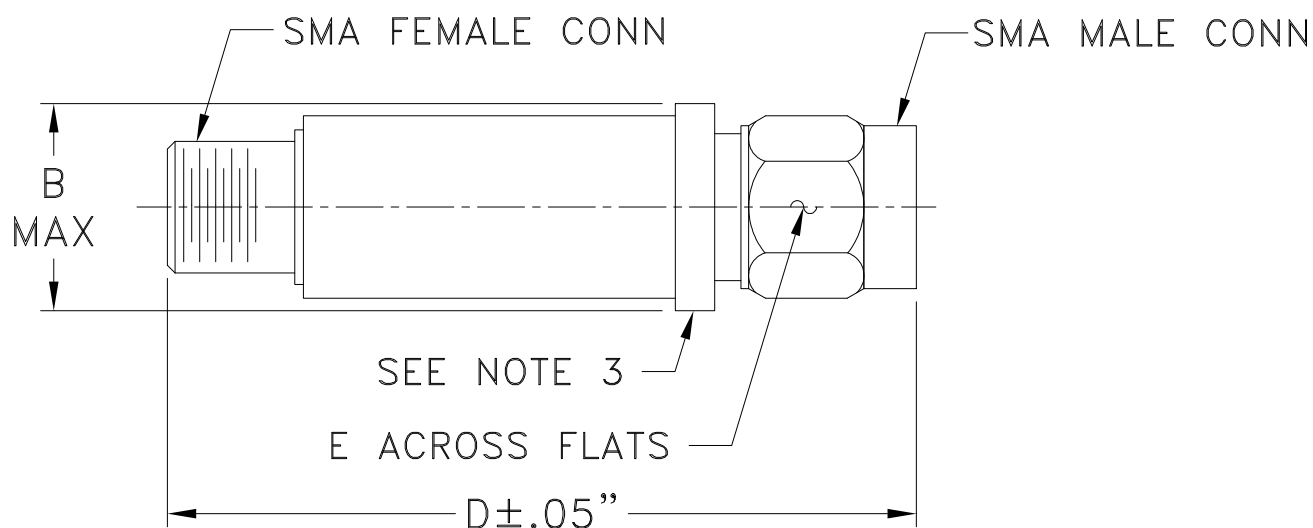
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF888	--	.410 (10.41)	--	1.18 (29.97)	.312 (7.92)	7.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .04$; 3Pl. $\pm .030$

Notes:

1. Case material: Stainless steel.
2. Case finish: Passivated.
3. Round Flange may have .312 Across Flats in some models.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

FF888 Rev.: AR (13/AUG/21) ECO-009237 File: FF888

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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 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I