



COAXIAL

DC Block N-Type

BLK-6-N+

Mini-Circuits

50Ω 10MHz to 6 GHz

THE BIG DEAL

- 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-6-N+
Case Style	FF779
Connectors	N-Female N-Male

+RoHS Compliant

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

PRODUCT OVERVIEW

Mini-Circuits' BLK-6-N+ is a coaxial DC Block supporting a wide range of applications from 10 MHz to 6 GHz including test and measurement. This model provides low insertion loss, excellent return loss and voltage handling upto 50V. This unit features N-Female connector at one end and N-Male at another end and comes in rugged unibody.

KEY FEATURES

Features	Advantages
Wideband, 10 MHz to 6000 MHz	Wide frequency range up to 6000 MHz provides application flexibility and makes this model ideal for broad-band and multi-band use.
Excellent Return Loss, 17 dB typ at 6000 MHz	Provides good matching for 50Ω systems and minimizes signal reflections across wide frequency range enabling its use in test and measurement.
Low insertion loss, 0.50 dB typ at 6000 MHz	Provides excellent signal power transmission from input to output.
Very wide operating temperature range, -55 to +100°C	Withstands wide operating conditions



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ELECTRICAL SPECIFICATIONS AT 25°C

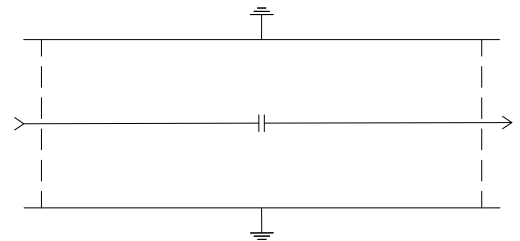
Parameter	Condition (MHz)	Min.	Typ.	Max.	Units
Frequency Range		10	—	6000	MHz
Insertion Loss	10 - 1000	—	0.05	0.25	dB
	1000 - 3000	—	0.12	0.70	
	3000 - 4000	—	0.25	0.90	
	4000 - 6000	—	0.50	1.20	
Return Loss	10 - 1000	28	45	—	dB
	1000 - 3000	18	30	—	
	3000 - 4000	14	22	—	
	4000 - 6000	—	17	—	

MAXIMUM RATINGS

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

Permanent damage may occur if any of these limits are exceeded. Derate linearly to 1W at 100°C ambient.

ELECTRICAL SCHEMATIC





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DC Block N-Type

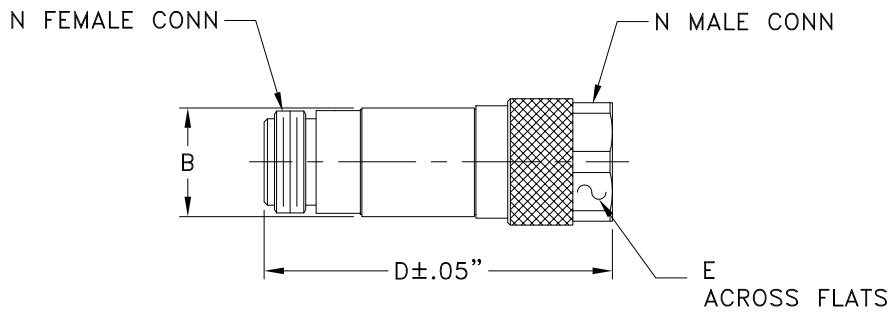
BLK-6-N+

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COAXIAL CONNECTIONS

PORT 1	N-Female
PORT 2	N-Male

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch mm)

	B	D	E	Weight
inches	.68	2.11	.718	Grams
mm	17.27	53.59	18.24	72.5

Note. Please refer to case style drawing for details



COAXIAL

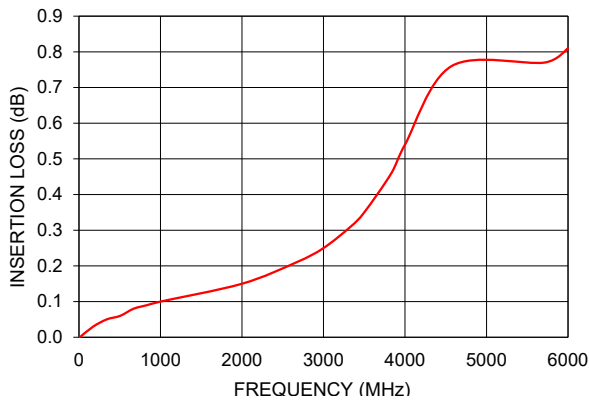
DC Block N-Type

BLK-6-N+

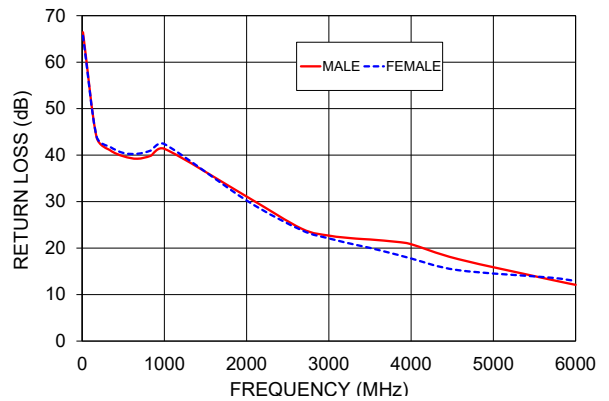
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		Male	Female
10	0.00	66.43	65.67
175	0.03	43.89	44.05
340	0.05	41.05	41.77
505	0.06	39.74	40.45
670	0.08	39.23	40.29
835	0.09	39.87	40.99
1000	0.10	41.36	42.38
2000	0.15	31.09	30.24
2667	0.21	24.19	23.87
3000	0.25	22.69	22.09
3333	0.31	22.04	20.68
3500	0.35	21.86	20.04
3833	0.46	21.33	18.57
4000	0.54	20.84	17.77
4571	0.76	17.64	15.26
5714	0.77	13.15	13.62
6000	0.81	12.10	12.92

BLK-6-N+
INSERTION LOSS



BLK-6-N+
RETURN LOSS



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

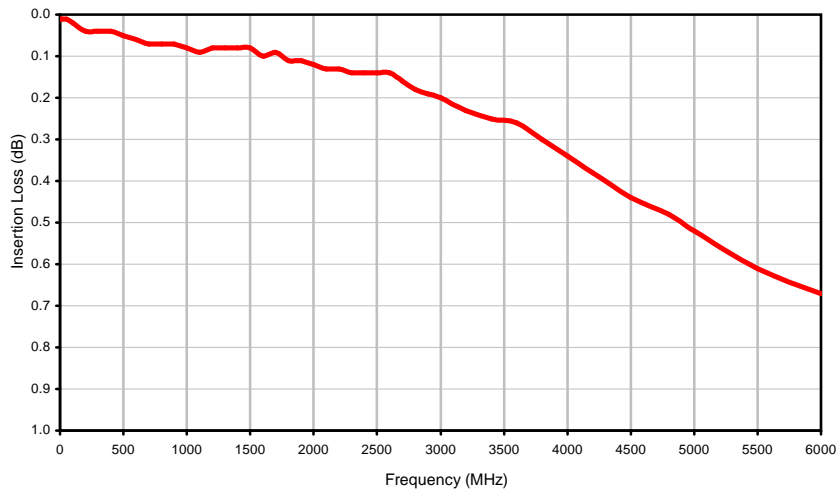


Typical Performance Data

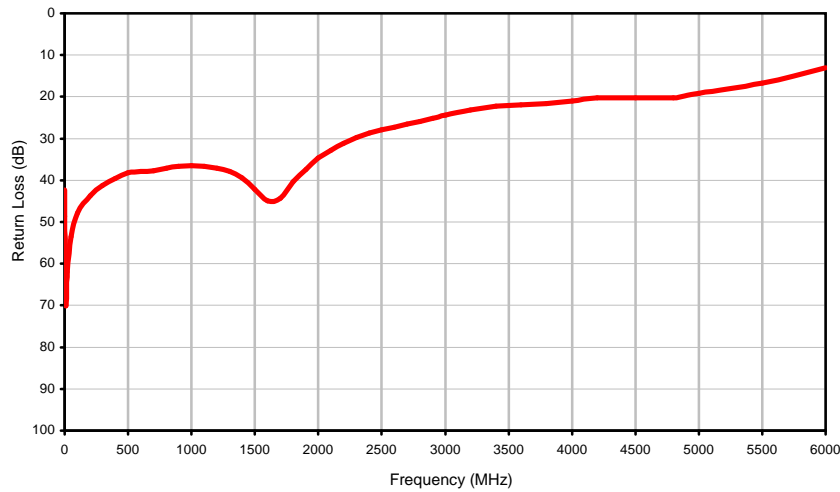
FREQUENCY (MHz)	INSERTION LOSS (dB)	MALE RETURN LOSS (dB)	FEMALE RETURN LOSS (dB)
1	0.01	42.37	42.36
2	0.01	48.59	48.61
4	0.01	55.47	55.65
6	0.01	60.28	60.95
10	0.01	70.05	70.42
20	0.01	61.94	62.60
50	0.01	53.51	53.56
100	0.02	47.91	48.73
200	0.04	43.71	43.70
300	0.04	41.28	41.19
400	0.04	39.57	39.69
500	0.05	38.24	38.85
600	0.06	37.93	38.71
700	0.07	37.80	38.80
800	0.07	37.04	39.15
900	0.07	36.66	40.09
1000	0.08	36.47	40.75
1100	0.09	36.65	42.00
1200	0.08	37.05	43.42
1300	0.08	37.87	44.41
1400	0.08	39.49	45.86
1500	0.08	42.12	46.59
1600	0.10	44.94	45.12
1700	0.09	44.38	42.06
1800	0.11	40.39	38.49
1900	0.11	37.42	36.09
2000	0.12	34.69	33.85
2100	0.13	32.76	32.45
2200	0.13	31.15	31.22
2300	0.14	29.77	30.02
2400	0.14	28.74	28.82
2500	0.14	27.90	27.63
2600	0.14	27.23	26.53
2700	0.16	26.59	25.62
2800	0.18	25.88	24.82
2900	0.19	25.13	24.10
3000	0.20	24.41	23.46
3200	0.23	23.15	22.01
3400	0.25	22.26	20.51
3600	0.26	21.95	19.57
3800	0.30	21.66	19.56
4000	0.34	20.94	19.07
4200	0.38	20.30	18.14
4500	0.44	20.25	17.99
4800	0.48	20.20	18.13
5000	0.52	19.14	16.94
5500	0.61	16.79	17.10
6000	0.67	13.09	12.23

Typical Performance Curves

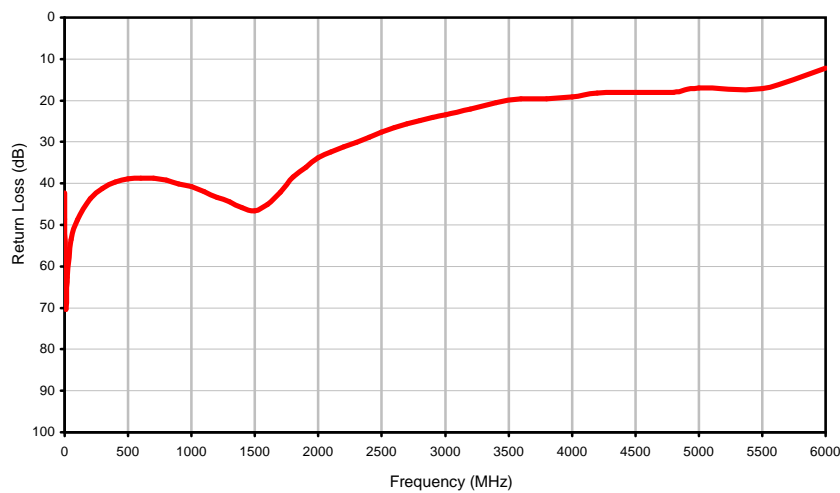
Insertion Loss



Male Return Loss



Female Return Loss



REV. X1
BLK-6-N+
061115
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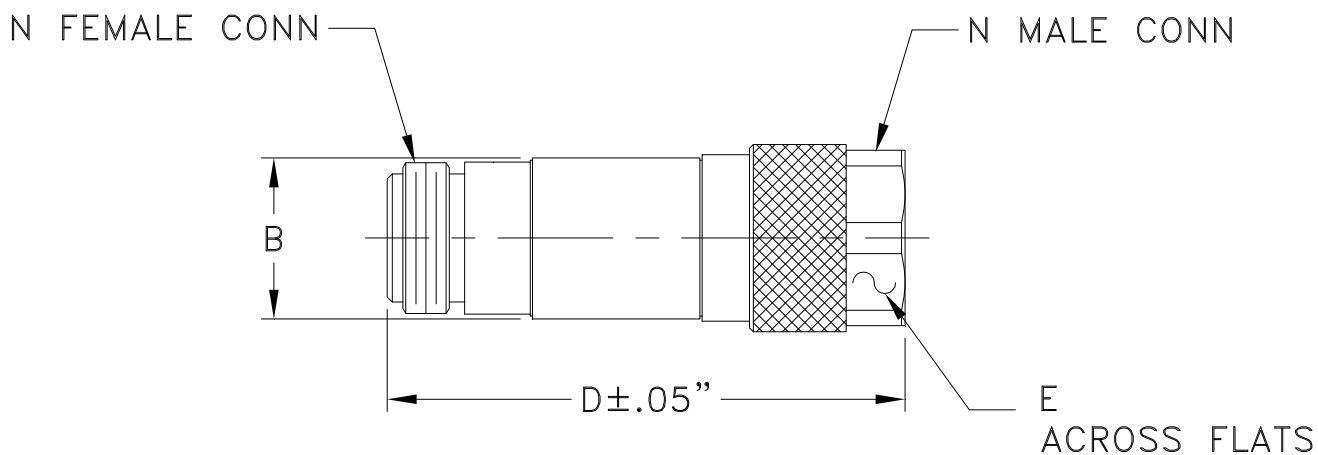


Case Style

FF

Outline Dimensions

FF779



CASE #.	A	B	C	D	E	WT GRAMS
FF779	--	.71 (18.03)	--	2.11 (53.59)	.718 (18.24)	72.5

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm 0.05/-0.04$; 3Pl. ± 0.030

Notes:

1. Case material: Brass.
2. Case finish: Nickel plate.

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ISO 9001 ISO 14001 CERTIFIED

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RF/IF MICROWAVE COMPONENTS

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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