COAXIAL

Inner DC Block

BLK-18W-N+

50Ω 50 MHz to 18 GHz N-Female to N-Male

THE BIG DEAL

- Wideband 50 MHz to 18 GHz
- Excellent VSWR, 1.2:1 typ up to 18 GHz
- Low Insertion Loss, 0.5 dB typ up to 18 GHz
- Inner DC block*
- N-type connectors

Generic photo used for illustration purposes only

Model No.	BLK-18W-N+
Case Style	FF779-1
Connectors	N-Female to N-Male

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

APPLICATIONS

- Test Lab Applications - DC Block protection for RF Test Equipment

PRODUCT OVERVIEW

Mini-Circuits' BLK-18W-N+ is a coaxial inner DC Block supporting a wide range of applications from 50 MHz to 18 GHz including Ku band test and measurement and more. *Inner DC Block refers to blocking the DC path on the center conductor but not blocking the DC path on the outer ground path. (See Electrical Schematic on page 2.) This model provides low insertion loss, excellent return loss and DC voltage handling up to 200V. The unit features N-Female connector at one end and N-Male connector at the other end and comes housed in a rugged stainless steel body, measuring only 2.07" in length.

KEY FEATURES

Features	Advantages
Wideband, 50 MHz to 18 GHz	Wide frequency range up to 18 GHz provides application flexibility and makes this model ideal for broad-band and multi-band use.
Inner DC Block	Blocks DC current flow at the inner conductor protecting sensitive test equipment that is often damaged when exposed to DC voltage and current.
Excellent VSWR, 1.2:1 dB typ up to 18 GHz	Provides good matching for 50Ω systems and minimizes signal reflections across wide frequency range enabling its use in test and measurement.
Low insertion loss, 0.5 dB typ. up to 18 GHz	Provides excellent signal power transmission from input to output.
Stainless steel construction	Stands up to wear and tear in demanding test environments and provides excellent reliability.
Very wide operating temperature range, -55 to +100˚C	Withstands extreme operating conditions and is suitable for use near high power components where heat rise is common and for use in over temperature tests

REV. OR
ECO-015853
BLK-18W-N+
MCL NY
230126

COAXIAL

Inner DC Block

BLK-18W-N+

50Ω 50 MHz to 18 GHz N-Female to N-Male

ELECTRICAL SPECIFICATIONS AT 25°C

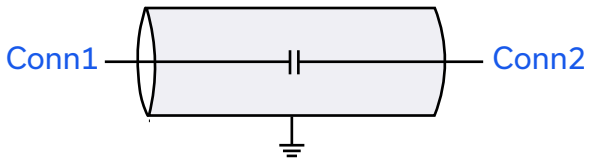
Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		0.05		18	GHz
Insertion Loss	0.05-18	-	0.24	0.75	dB
VSWR	0.05-18	-	1.1	1.35	:1

MAXIMUM RATINGS

Parameter	Ratings
Operating Case Temperature	-55 °C to +100 °C
Storage Temperature	-55 °C to +100 °C
DC input Voltage	200 V

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

ELECTRICAL SCHEMATIC



(Unit is bidirectional)

COAXIAL

Inner DC Block

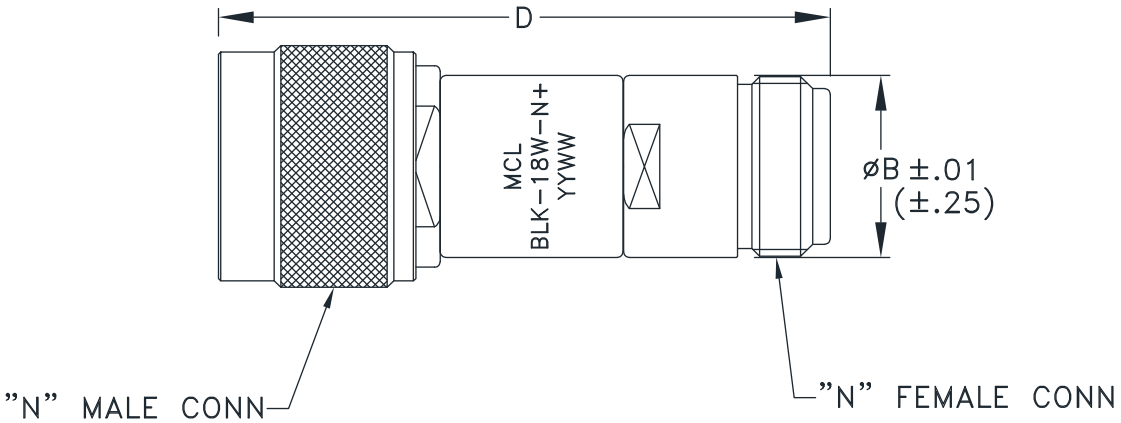
BLK-18W-N+

50Ω 50 MHz to 18 GHz N-Female to N-Male

CONNECTOR SPECIFICATIONS

Description	Connector 1	Connector 2
Connector Type	N-Female	N-Male
Orientation	Straight	
Impedance	50 Ω	
Housing	Passivated Stainless Steel	
Contact	Beryllium Copper, Gold Plated	
Dielectric	High Temp Plastic	

OUTLINE DRAWING



Tolerances: 2Pl± .03; 3Pl. ± .015

OUTLINE DIMENSIONS

	A	B	C	D	Weight Grams
inches	—	.63	—	2.07	
mm	—	16.00	—	52.6	70.84

Tolerances in inches (mm). Tolerances: 2Pl±.03; 3Pl.±.015

COAXIAL

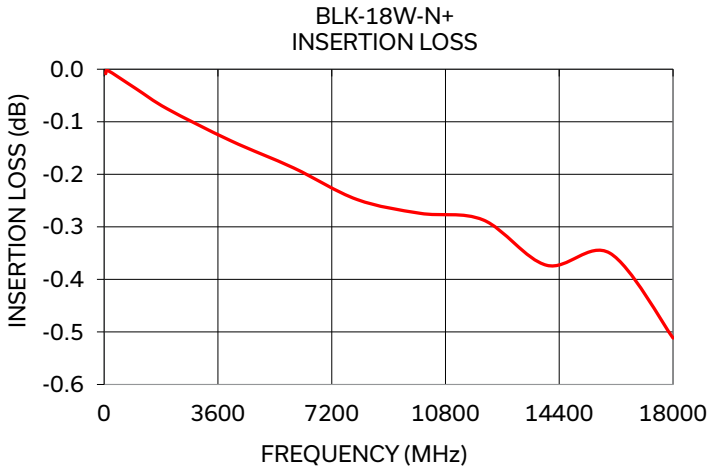
Inner DC Block

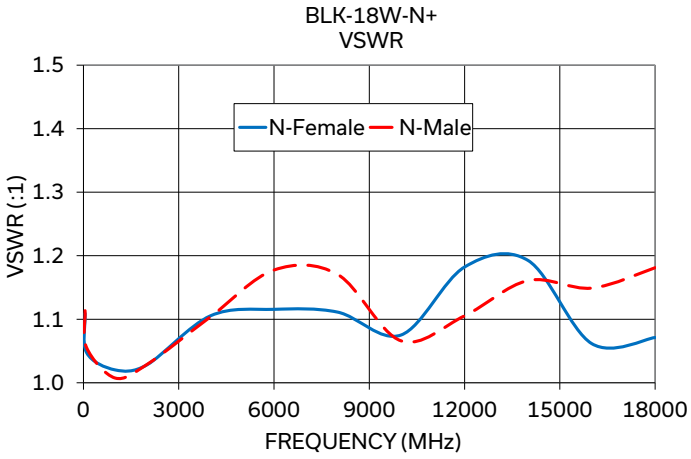
BLK-18W-N+

50Ω 50 MHz to 18 GHz N-Female to N-Male

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	
		N-Female	N-Male
50	0.01	1.11	1.11
100	0.01	1.05	1.06
1000	0.04	1.02	1.01
2000	0.08	1.03	1.03
4000	0.14	1.11	1.10
6000	0.19	1.12	1.18
8000	0.25	1.11	1.17
10000	0.27	1.08	1.07
12000	0.29	1.18	1.11
14000	0.37	1.19	1.16
16000	0.35	1.06	1.15
18000	0.51	1.07	1.18





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/terms/viewterm.html

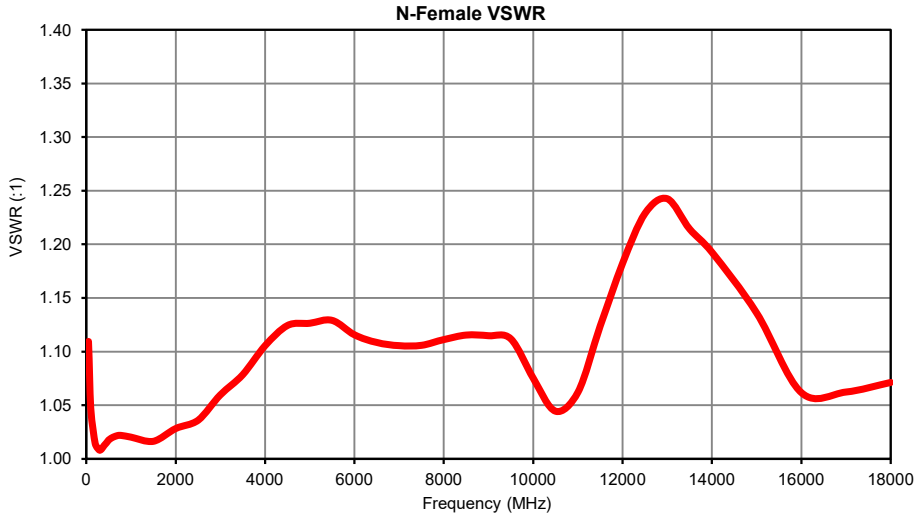
Inner DC Block, N-F to N-M BLK-18W-N+

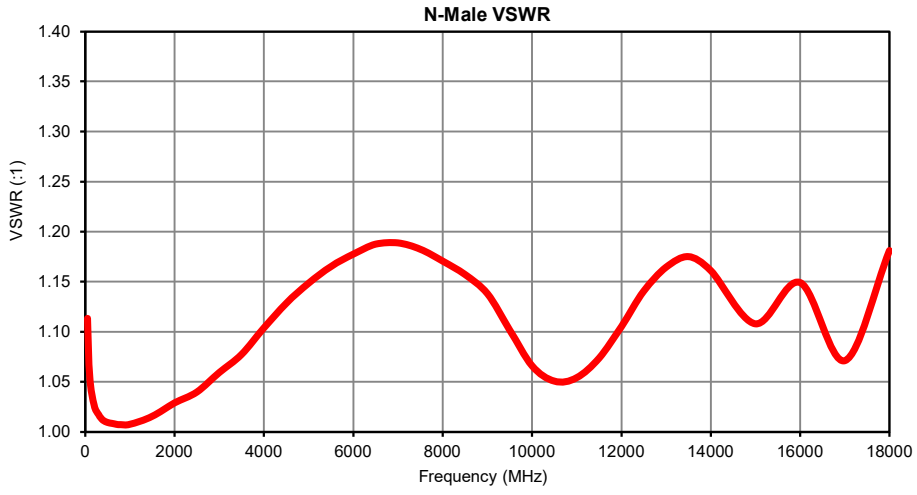
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	N-FEMALE VSWR (:1)	N-MALE VSWR (:1)
50	0.01	1.11	1.11
100	0.00	1.05	1.06
200	0.01	1.01	1.03
300	0.01	1.01	1.02
400	0.02	1.01	1.01
500	0.02	1.02	1.01
600	0.02	1.02	1.01
700	0.02	1.02	1.01
800	0.03	1.02	1.01
1000	0.04	1.02	1.01
1500	0.06	1.02	1.02
2000	0.08	1.03	1.03
2500	0.08	1.04	1.04
3000	0.09	1.06	1.06
3500	0.12	1.08	1.08
4000	0.14	1.11	1.10
4500	0.15	1.12	1.13
5000	0.17	1.13	1.15
5500	0.19	1.13	1.17
6000	0.19	1.12	1.18
6500	0.20	1.11	1.19
7000	0.21	1.11	1.19
7500	0.23	1.11	1.18
8000	0.25	1.11	1.17
8500	0.27	1.12	1.16
9000	0.28	1.11	1.14
9500	0.29	1.11	1.10
10000	0.27	1.08	1.07
10500	0.27	1.04	1.05
11000	0.26	1.06	1.05
11500	0.27	1.12	1.07
12000	0.29	1.18	1.11
12500	0.31	1.23	1.14
13000	0.33	1.24	1.16
13500	0.35	1.21	1.18
14000	0.37	1.19	1.16
15000	0.37	1.14	1.11
16000	0.35	1.06	1.15
17000	0.41	1.06	1.07
18000	0.51	1.07	1.18

Inner DC Block, N-F to N-M BLK-18W-N+

Typical Performance Curves

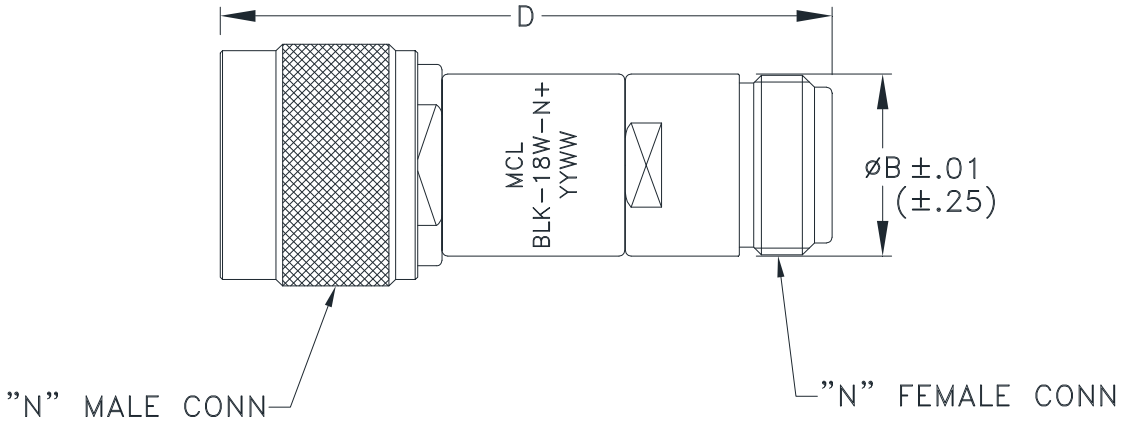




Case Style FF

FF779-1

Outline Dimensions



CASE #.	A	B	C	D	WT GRAMS MAX
FF779-1	-- --	.63 (16.00)	-- --	2.07 (52.6)	70.84

Dimensions are in inches (mm). Tolerances: 2Pl± .03; 3Pl. ± .015

Notes:

1. Case material: Stainless steel.
2. Case finish: Passivated.

Mini-Circuits

Environmental Specifications ENV137

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
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition A-1 except +100°C instead of 85°C
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
Connector Durability	500 mating/unmating cycles	MIL-PRF-39012E, PARAGRAPH 4.6.12