



THE BIG DEAL

- Ultra-wideband, DC-18 GHz
- Low Insertion Loss, 0.14 dB typ.
- Excellent VSWR, 1.17:1 typ.



Generic photo used for illustration purposes only

Model No.	NFFL-SM50+
Case Style	DJ1808-1
Connectors	N- Female to SMA- Male

+RoHS Compliant

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

APPLICATIONS

- Interconnection of RF cable and equipment
- Instrumentation

PRODUCT OVERVIEW

Mini-Circuits' NFFL-SM50+ is a N-Female to SMA-Male adapter supporting a wide range of applications from DC to 18 GHz. This model provides excellent VSWR, low insertion loss, and flat response versus frequency. The NFFL-SM50+ features tri-metal plated brass housing and Gold-plated beryllium copper construction center contact.

KEY FEATURES

Feature	Advantages
Wideband, DC to 18 GHz	Wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use.
Excellent VSWR • 1.17:1 typ.	Provides good matching for 50Ω systems and minimizes signal reflections across wide frequency range.
Low Insertion Loss • 0.14 dB typ.	Provides excellent signal power transmission from input to output.
Tri-metal plated brass housing and Gold-plated beryllium copper center contact	Stands up to wear and tear in demanding environments and provides excellent reliability.
Very wide operating temperature range, • -45 to +100 °C	Withstands extreme operating conditions and is suitable for use near high power componentry where heat rise is common.



ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Insertion Loss	DC - 18	—	0.05	—	dB
VSWR	DC - 8	—	1.05	1.30	:1
	8 - 12	—	1.19	1.30	
	12 - 18	—	1.17	1.30	

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-45°C to 100°C
Storage Temperature	-45°C to 100°C

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



COAXIAL

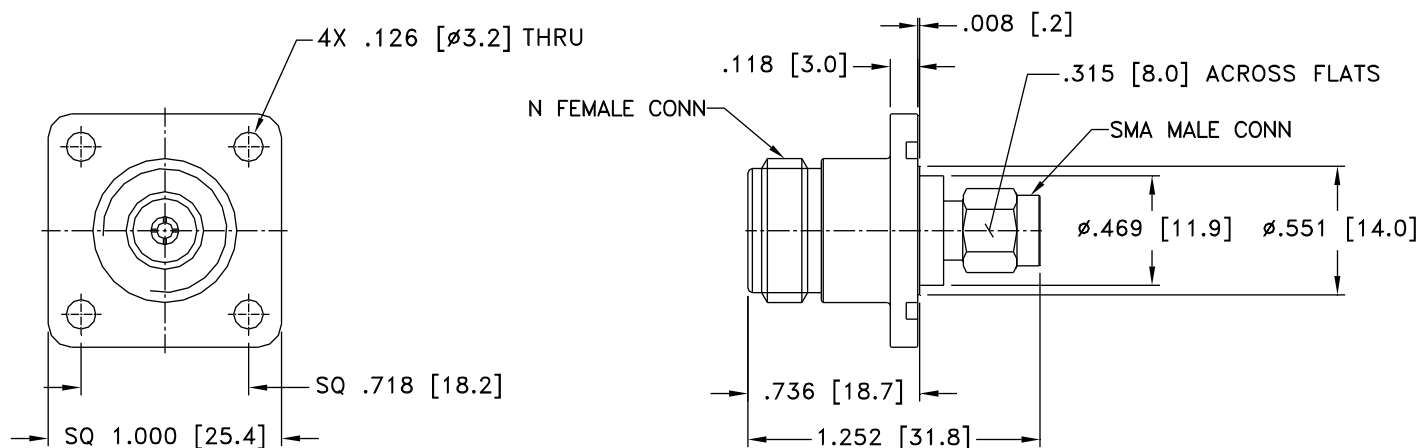
Adapter

NFFL-SM50+

Mini-Circuits

50Ω DC to 18 GHz N-Female to SMA-Male

OUTLINE DRAWING



Weight: 36 gram.

Dimensions are in inches [mm]



COAXIAL

Adapter

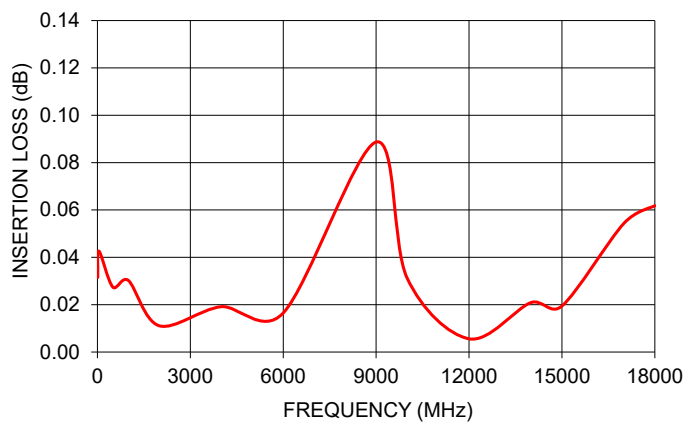
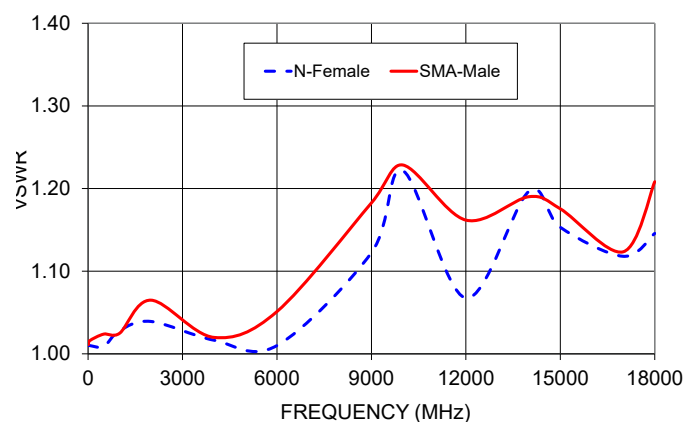
NFFL-SM50+

Mini-Circuits

50Ω DC to 18 GHz N-Female to SMA-Male

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	
		N- Female	SMA- Male
10	0.03	1.01	1.01
50	0.04	1.01	1.02
500	0.03	1.01	1.02
1000	0.03	1.03	1.02
2000	0.01	1.04	1.06
4000	0.02	1.02	1.02
6000	0.02	1.01	1.05
9000	0.09	1.12	1.18
10000	0.03	1.22	1.23
12000	0.01	1.07	1.16
14000	0.02	1.20	1.19
15000	0.02	1.15	1.18
17000	0.05	1.12	1.12
18000	0.06	1.15	1.21

NFFL-SM50+
INSERTION LOSSNFFL-SM50+
VSWR

NOTES

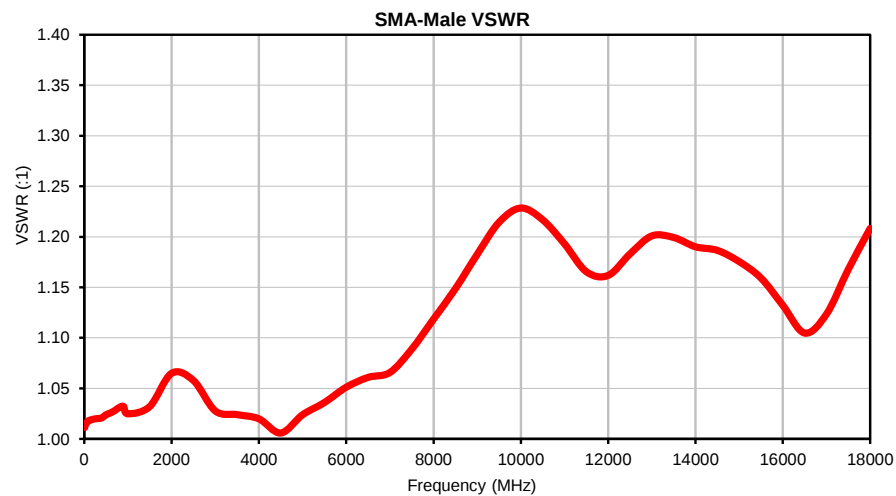
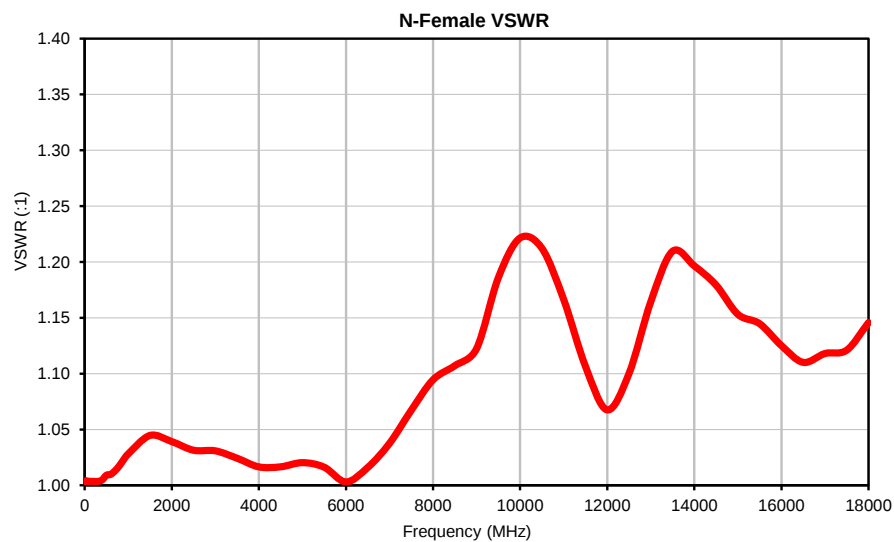
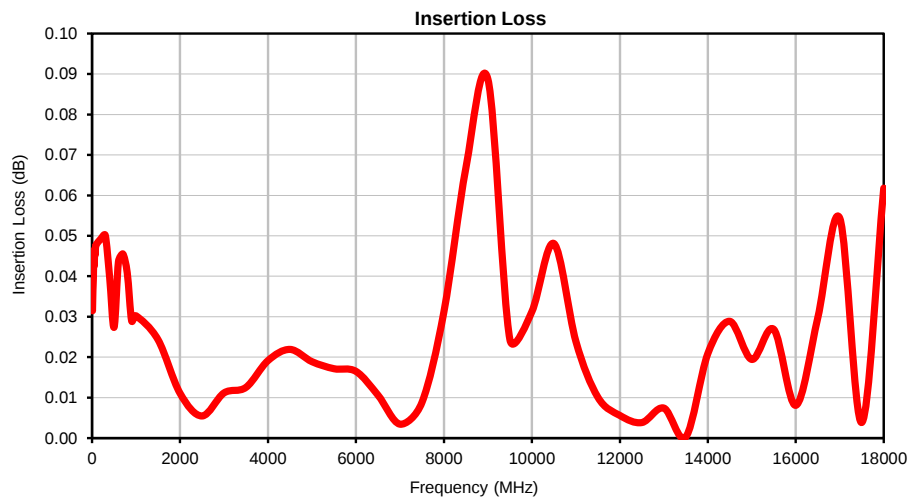
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- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document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



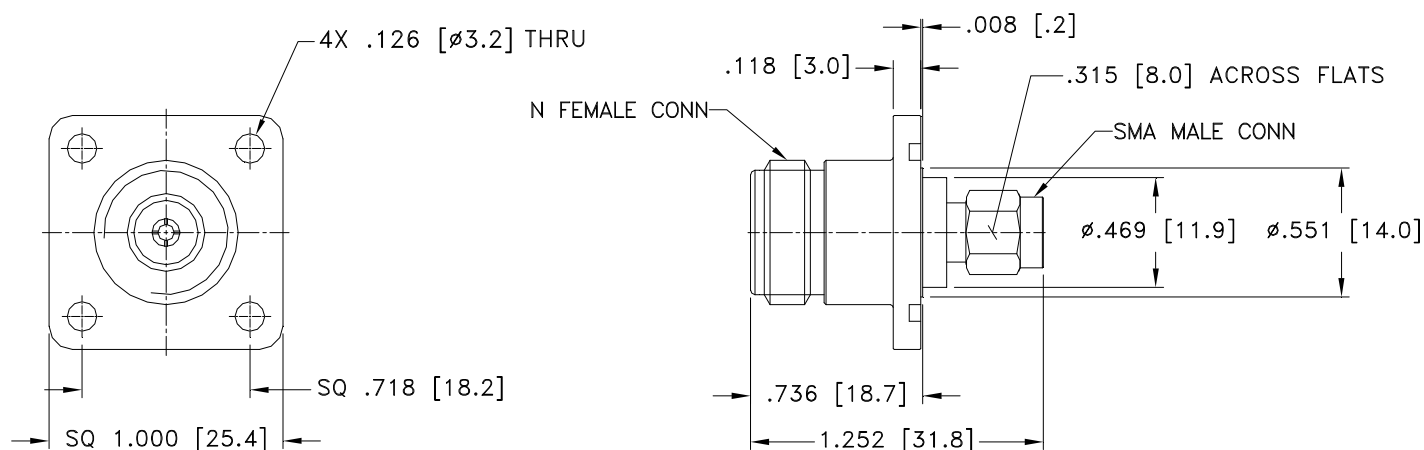
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	N-FEMALE VSWR (:1)	SMA-MALE VSWR (:1)
10	0.031	1.00	1.01
20	0.037	1.00	1.01
30	0.040	1.00	1.01
40	0.045	1.00	1.02
50	0.043	1.00	1.02
60	0.047	1.00	1.02
70	0.045	1.00	1.02
80	0.047	1.00	1.02
90	0.048	1.00	1.02
100	0.048	1.00	1.02
200	0.049	1.00	1.02
300	0.050	1.00	1.02
400	0.040	1.00	1.02
500	0.027	1.01	1.02
600	0.044	1.01	1.03
700	0.046	1.01	1.03
800	0.041	1.02	1.03
900	0.029	1.02	1.03
1000	0.030	1.03	1.02
1500	0.024	1.04	1.03
2000	0.011	1.04	1.06
2500	0.005	1.03	1.06
3000	0.011	1.03	1.03
3500	0.013	1.02	1.02
4000	0.019	1.02	1.02
4500	0.022	1.02	1.01
5000	0.019	1.02	1.02
5500	0.017	1.02	1.04
6000	0.016	1.00	1.05
6500	0.011	1.02	1.06
7000	0.003	1.04	1.07
7500	0.009	1.07	1.09
8000	0.031	1.09	1.12
8500	0.067	1.11	1.15
9000	0.089	1.12	1.18
9500	0.024	1.19	1.21
10000	0.031	1.22	1.23
10500	0.048	1.21	1.22
11000	0.024	1.17	1.19
11500	0.010	1.11	1.17
12000	0.006	1.07	1.16
12500	0.004	1.10	1.18
13000	0.007	1.16	1.20
13500	0.000	1.21	1.20
14000	0.021	1.20	1.19
14500	0.029	1.18	1.19
15000	0.019	1.15	1.18
15500	0.027	1.14	1.16
16000	0.008	1.13	1.13
16500	0.030	1.11	1.10
17000	0.054	1.12	1.12
17500	0.004	1.12	1.17
18000	0.062	1.15	1.21

Typical Performance Curves



Outline Dimensions



Weight: 36 grams

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm$.03; 3Pl. + .015

Notes:

1. Case material: Brass.
2. Finish: Tri Metal plate.



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



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS



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 or -55° to 85° C or -45° 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 B except over - 55° to 100°C
Connector Durability	500 mating/unmating cycles	MIL-PRF-39012E, PARAGRAPH 4.6.12
Drop Test	1 meter height, 5 times	