



Mini-Circuits

LUMPED LC COAXIAL

Band Stop Filter

NBSF-760+

50Ω 680 to 840 MHz N-Type

KEY FEATURES

- Low Insertion Loss, 0.9 dB Typ.
- Stopband Rejection, 42 dB Typ.
- Connectorized package

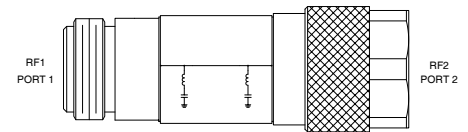


Generic photo used for illustration purposes only

APPLICATIONS

- GPS
- Public Safety Radio

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' Model-NBSF-760+ is a Lumped LC bandstop filter that offer a good insertion loss and high rejection. This band stop filter rejects from 680 to 840 MHz. While passing DC - 400 MHz and 1350 - 1700 MHz, this filter has high Q capacitors and inductors to achieve a low insertion loss. It has repeatable performance across production lots.

ELECTRICAL SPECIFICATIONS¹ AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband, Lower	Insertion Loss	DC-F1	DC - 400	—	0.9	1.5	dB
	Return Loss	DC-F1	DC - 400	7	10	—	dB
Stopband	Rejection	F4-F5	680 - 840	30	42	—	dB
Passband, Upper	Insertion Loss	F2-F3	1350 - 1700	—	0.4	1	dB
	Return Loss	F2-F3	1350 - 1700	10	20	—	dB

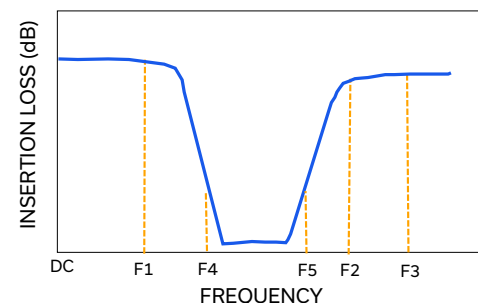
1. Bi-directional, RF1 and RF2 ports can be interchanged.

ABSOLUTE MAXIMUM RATINGS²

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power	3 W

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

TYPICAL FREQUENCY RESPONSE AT +25°C



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REV.0R
ECO-026012
NBSF-760+
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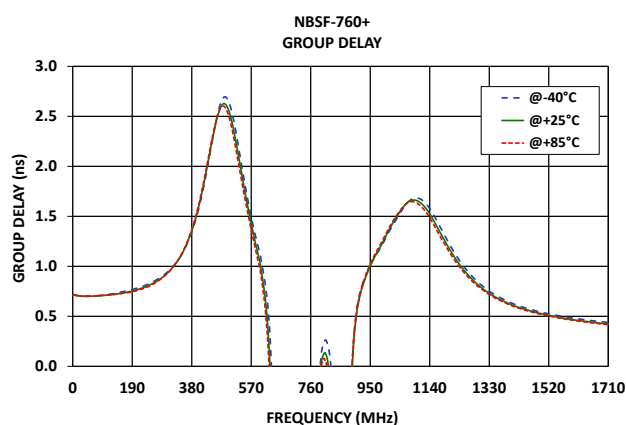
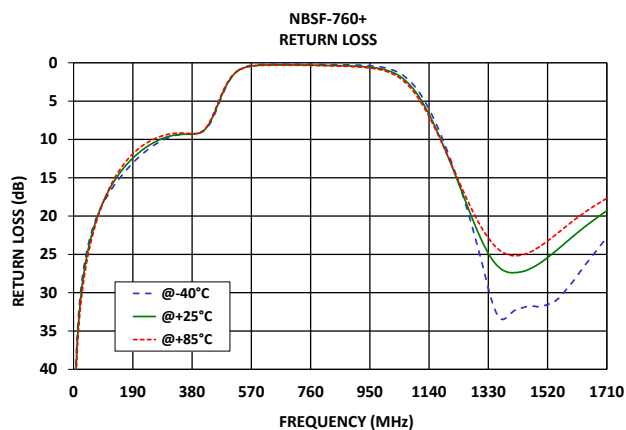
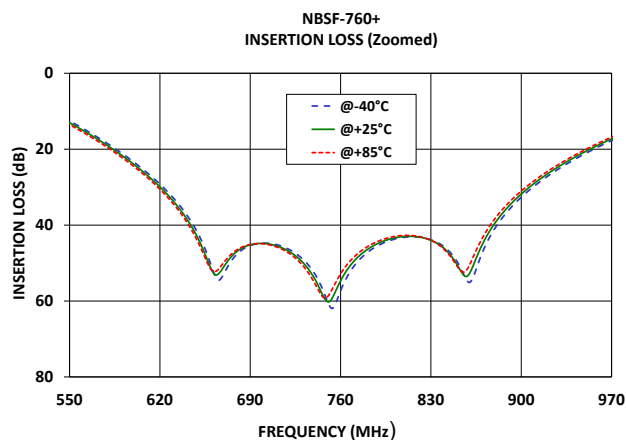
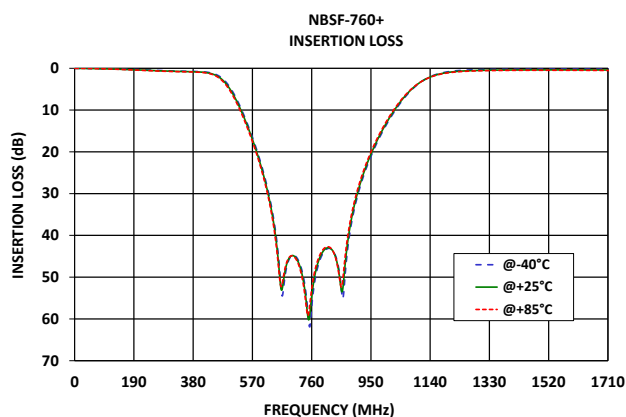
Band Stop Filter

NBSF-760+

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50 Ω 680 to 840 MHz N-Type

TYPICAL PERFORMANCE GRAPHS





Band Stop Filter

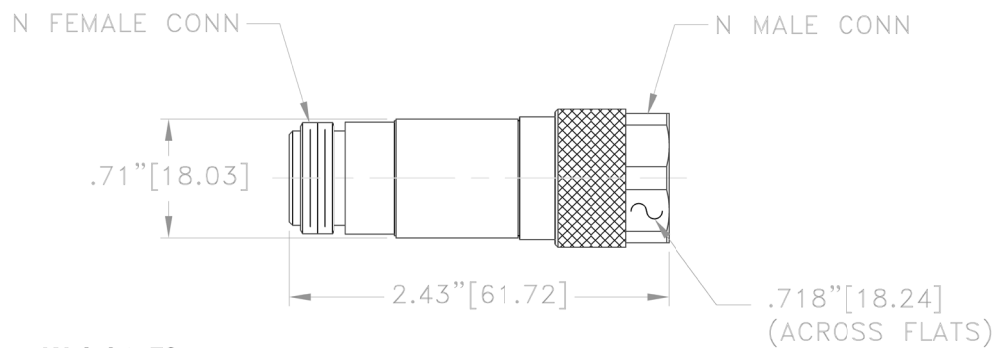
NBSF-760+

50Ω 680 to 840 MHz N-Type

CONNECTOR DESCRIPTION

Function	Functionality	Connector
RF1 ¹	Port-1	N- FEMALE
RF2 ¹	Port-2	N- MALE

CASE STYLE DRAWING



Weight: 73 gram

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .05/-0.04$; 3Pl. $\pm .030$

PRODUCT MARKING*: NBSF-760+

*Marking may contain other features or characters for internal lot control.



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LUMPED LC COAXIAL

Band Stop Filter

NBSF-760+

50Ω

680 to 840 MHz

N- Type

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
Case Style	FF967
RoHS Status	Compliant
Environmental Ratings	ENV28

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



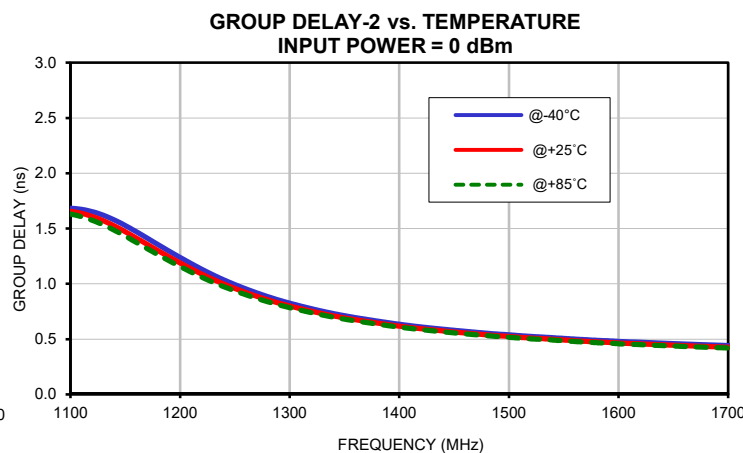
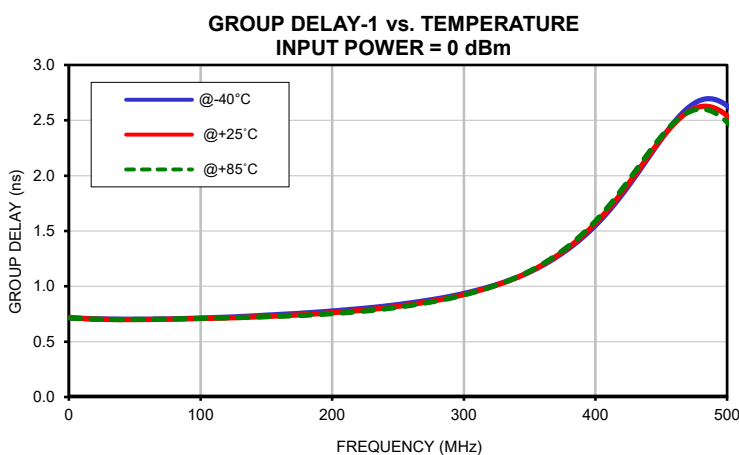
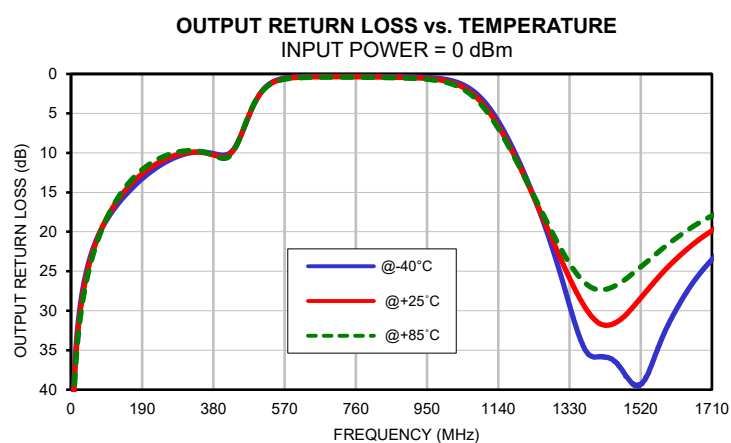
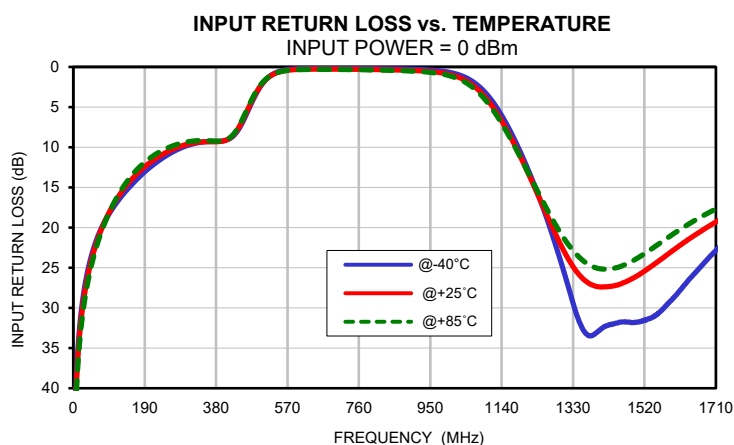
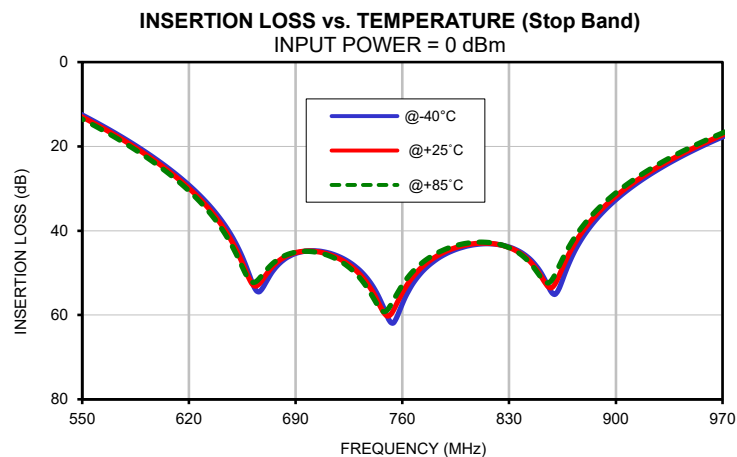
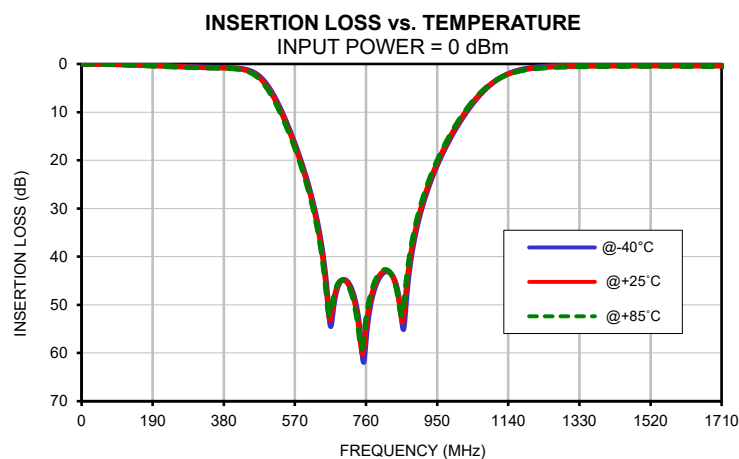
Typical Performance Data

FREQ.	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
(MHz)	(dB)			(dB)			(dB)		
	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C
1	0.01	0.01	0.01	56.84	56.42	55.94	56.15	55.97	55.22
10	0.01	0.01	0.02	37.01	38.05	38.96	37.10	38.11	39.01
22	0.02	0.03	0.03	30.12	31.04	31.94	30.31	31.16	31.99
34	0.03	0.04	0.04	26.42	27.20	27.99	26.60	27.28	28.03
40	0.04	0.04	0.05	25.06	25.75	26.48	25.25	25.85	26.53
55	0.05	0.06	0.06	22.47	22.94	23.49	22.65	23.04	23.56
61	0.06	0.07	0.07	21.64	22.02	22.50	21.83	22.14	22.58
70	0.07	0.08	0.09	20.57	20.81	21.17	20.77	20.93	21.27
100	0.11	0.13	0.14	17.95	17.71	17.70	18.14	17.84	17.83
100	0.11	0.13	0.14	17.95	17.71	17.70	18.14	17.84	17.83
202	0.32	0.39	0.45	12.58	11.98	11.43	12.79	12.20	11.68
301	0.59	0.67	0.74	9.82	9.65	9.35	10.19	10.03	9.76
400	0.79	0.89	0.94	9.19	9.21	9.17	10.27	10.50	10.66
600	23.45	24.05	24.59	0.22	0.31	0.34	0.37	0.46	0.51
680	47.57	46.86	46.45	0.19	0.28	0.31	0.30	0.36	0.41
700	44.76	44.83	44.94	0.19	0.28	0.31	0.29	0.36	0.41
800	43.89	43.51	43.11	0.22	0.33	0.38	0.31	0.38	0.44
840	45.65	46.08	46.33	0.24	0.37	0.42	0.32	0.40	0.47
1000	13.45	13.04	12.68	0.66	0.93	1.08	0.70	0.90	1.06
1020	10.98	10.61	10.31	0.89	1.20	1.39	0.91	1.16	1.35
1040	8.77	8.46	8.22	1.23	1.60	1.82	1.25	1.55	1.77
1060	6.84	6.61	6.43	1.74	2.18	2.44	1.74	2.11	2.37
1080	5.21	5.05	4.95	2.44	2.96	3.26	2.43	2.88	3.18
1090	4.49	4.38	4.31	2.89	3.44	3.75	2.87	3.35	3.66
1100	3.86	3.78	3.75	3.39	3.98	4.30	3.37	3.89	4.20
1120	2.81	2.81	2.83	4.60	5.25	5.57	4.56	5.13	5.46
1140	2.02	2.09	2.15	6.05	6.73	7.03	6.00	6.61	6.91
1160	1.45	1.57	1.65	7.74	8.41	8.65	7.68	8.27	8.53
1180	1.06	1.21	1.31	9.63	10.24	10.38	9.55	10.08	10.27
1200	0.79	0.96	1.06	11.68	12.19	12.19	11.59	12.02	12.10
1220	0.61	0.79	0.89	13.91	14.21	14.04	13.80	14.06	13.99
1240	0.49	0.67	0.78	16.29	16.30	15.88	16.16	16.16	15.91
1260	0.41	0.59	0.70	18.85	18.40	17.67	18.68	18.32	17.82
1280	0.36	0.54	0.64	21.66	20.47	19.38	21.44	20.51	19.71
1300	0.32	0.50	0.59	24.64	22.41	20.93	24.42	22.70	21.54
1320	0.29	0.47	0.56	27.81	24.12	22.28	27.65	24.84	23.24
1340	0.28	0.45	0.54	30.91	25.52	23.40	30.89	26.84	24.71
1350	0.27	0.44	0.53	32.08	26.07	23.85	32.40	27.78	25.36
1360	0.26	0.43	0.52	32.95	26.53	24.25	33.70	28.65	25.92
1380	0.25	0.42	0.51	33.44	27.13	24.81	35.52	30.15	26.79
1400	0.24	0.41	0.50	32.81	27.38	25.12	35.86	31.25	27.28
1420	0.24	0.40	0.49	32.21	27.37	25.18	35.83	31.79	27.35
1440	0.23	0.40	0.48	31.96	27.24	25.06	36.05	31.77	27.09
1460	0.22	0.39	0.48	31.75	26.95	24.78	36.89	31.31	26.62
1480	0.22	0.39	0.48	31.78	26.53	24.36	38.30	30.52	25.97
1500	0.21	0.38	0.47	31.78	26.02	23.83	39.32	29.50	25.23
1520	0.21	0.38	0.47	31.54	25.42	23.26	39.32	28.39	24.46
1540	0.21	0.38	0.47	31.20	24.76	22.61	37.96	27.27	23.66
1560	0.20	0.38	0.48	30.54	24.08	21.97	35.47	26.14	22.84
1580	0.20	0.38	0.48	29.57	23.39	21.32	33.13	25.09	22.05
1600	0.20	0.39	0.48	28.63	22.71	20.68	31.14	24.11	21.31
1625	0.20	0.39	0.49	27.22	21.86	19.93	29.01	22.99	20.46
1631	0.20	0.39	0.49	26.91	21.68	19.76	28.52	22.73	20.26
1634	0.20	0.39	0.49	26.72	21.57	19.66	28.28	22.61	20.15
1652	0.20	0.40	0.50	25.78	21.00	19.16	26.95	21.88	19.57
1661	0.20	0.40	0.50	25.32	20.73	18.91	26.34	21.52	19.29
1673	0.20	0.40	0.51	24.70	20.37	18.60	25.58	21.08	18.94
1682	0.21	0.40	0.51	24.23	20.10	18.37	25.05	20.77	18.69
1694	0.21	0.40	0.51	23.61	19.75	18.07	24.36	20.36	18.38
1700	0.21	0.41	0.51	23.33	19.58	17.92	24.03	20.17	18.22

Typical Performance Data

FREQ.	GROUP DELAY-1			FREQ.	GROUP DELAY-2		
(MHz)	(ns)			(MHz)	(ns)		
	@-40°C	@+25°C	@+85°C		@-40°C	@+25°C	@+85°C
1	0.71	0.72	0.71	1350	0.71	0.69	0.68
4	0.71	0.71	0.71	1352	0.71	0.69	0.68
7	0.71	0.71	0.71	1356	0.70	0.68	0.67
10	0.71	0.71	0.71	1358	0.70	0.68	0.67
13	0.71	0.71	0.71	1360	0.69	0.68	0.66
16	0.71	0.71	0.70	1364	0.69	0.67	0.66
22	0.71	0.70	0.70	1366	0.68	0.67	0.66
25	0.71	0.70	0.70	1388	0.65	0.63	0.62
31	0.70	0.70	0.70	1390	0.65	0.63	0.62
37	0.70	0.70	0.70	1400	0.63	0.62	0.61
40	0.70	0.70	0.70	1410	0.62	0.60	0.60
49	0.70	0.70	0.70	1420	0.61	0.59	0.59
52	0.70	0.70	0.70	1430	0.60	0.58	0.58
55	0.70	0.70	0.70	1440	0.59	0.57	0.57
58	0.70	0.70	0.70	1450	0.58	0.56	0.56
61	0.70	0.70	0.70	1460	0.57	0.56	0.55
100	0.71	0.71	0.71	1470	0.56	0.55	0.54
109	0.72	0.71	0.71	1480	0.55	0.54	0.53
160	0.75	0.73	0.73	1490	0.55	0.53	0.52
175	0.76	0.74	0.74	1500	0.54	0.52	0.52
181	0.76	0.75	0.74	1510	0.53	0.52	0.51
199	0.78	0.76	0.75	1520	0.52	0.51	0.50
202	0.78	0.76	0.75	1530	0.52	0.50	0.50
220	0.80	0.78	0.77	1540	0.51	0.50	0.49
250	0.84	0.82	0.81	1550	0.51	0.49	0.49
265	0.86	0.85	0.84	1560	0.50	0.49	0.48
292	0.92	0.90	0.90	1570	0.50	0.48	0.47
301	0.94	0.93	0.93	1580	0.49	0.48	0.47
310	0.97	0.96	0.96	1590	0.49	0.47	0.46
316	0.98	0.98	0.98	1600	0.48	0.46	0.46
325	1.02	1.01	1.01	1610	0.47	0.46	0.45
334	1.05	1.05	1.05	1622	0.47	0.46	0.45
346	1.11	1.11	1.11	1628	0.47	0.45	0.45
352	1.14	1.14	1.15	1631	0.47	0.45	0.45
370	1.26	1.27	1.28	1634	0.47	0.45	0.44
373	1.28	1.29	1.31	1640	0.46	0.45	0.44
385	1.39	1.40	1.42	1643	0.46	0.45	0.44
391	1.45	1.47	1.48	1655	0.46	0.44	0.44
394	1.48	1.50	1.52	1685	0.45	0.43	0.42
397	1.51	1.53	1.55	1691	0.44	0.43	0.42
400	1.55	1.57	1.59	1700	0.44	0.43	0.42

Typical Performance Curves

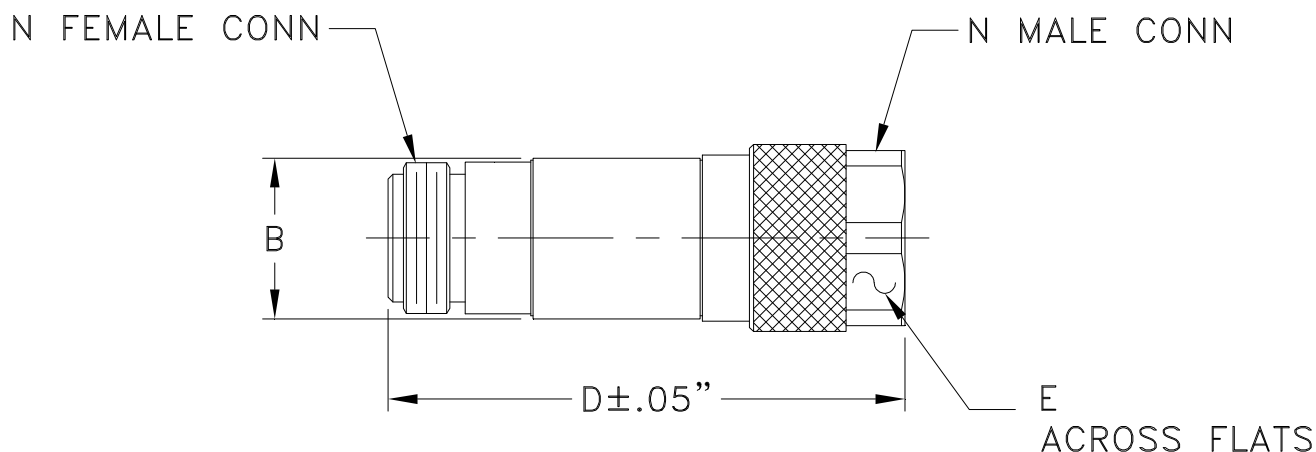


Case Style

FF

Outline Dimensions

FF967



CASE #.	A	B	C	D	E	WT GRAMS
FF967	--	.71 (18.03)	--	2.43 (61.72)	.718 (18.24)	73.0

Dimensions are in inches (mm). Tolerances: 2Pl. +.05/-.04; 3Pl. ± .030

Notes:

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