Coaxial

Bandpass Filter

VBFZ-2000-S+

50Ω 1730 to 2270 MHz

Generic photo used for illustration purposes only

CASE STYLE: FF1145

Connectors	Model
SMA	VBFZ-2000-S+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	7W at 25°C

*Passband rating, derate linearly to 3W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

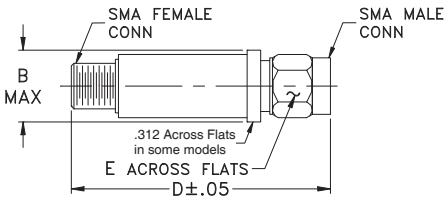
Features

- Good Rejection, 30dB up to 16GHz
- Low insertion loss
- Excellent power handling, 7W
- Temperature stable LTCC internal structure
- Rugged stainless steel unibody
- Protected by US Patent 6,943,646

Applications

- Harmonic rejection
- Transmitters/receivers
- Lab use
- Test instrumentation

Outline Drawing



Outline Dimensions (inch / mm)

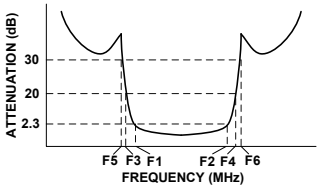
B	D	E	wt.
.410	**1.91**	**.312**	grams
10.41	48.51	7.92	11.8

Note: Please refer to case style drawing for details

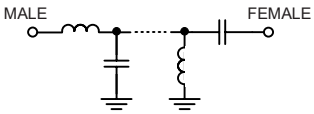
Bandpass Filter Electrical Specifications (T_{AMB}= 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 2.3dB)	STOPBANDS (MHz) (Loss > 20dB)		(Loss 30dB Typ)		VSWR (:1) Passband		Stopband
Fc	F1 - F2	F3	F4	F5	F6	Typ.	Max.	Typ.
2000	1730 - 2270	1210	2960	1200	2960 - 16000	1.6	2.4	20

Typical Frequency Response



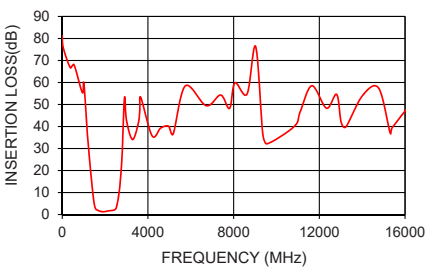
Functional Schematic



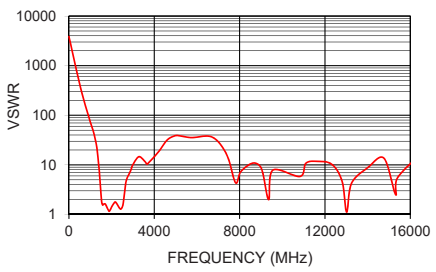
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	79.14	18637.82
250	68.15	1353.31
1200	33.44	38.13
1210	32.29	36.51
1360	16.33	14.94
1461	6.99	4.47
1530	3.28	1.87
1730	1.63	1.56
2000	1.37	1.42
2270	1.80	1.72
2556	3.93	1.89
2635	8.17	3.61
2720	16.45	5.44
2800	27.89	6.30
2850	37.66	6.86
2960	48.75	9.06
5000	39.36	40.30
10000	37.29	15.72
13000	42.80	1.31
16000	51.77	20.73

VBFZ-2000-S+
INSERTION LOSS



VBFZ-2000-S+
VSWR



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

Coaxial SMA Band Pass Filter VBFZ-2000-S+

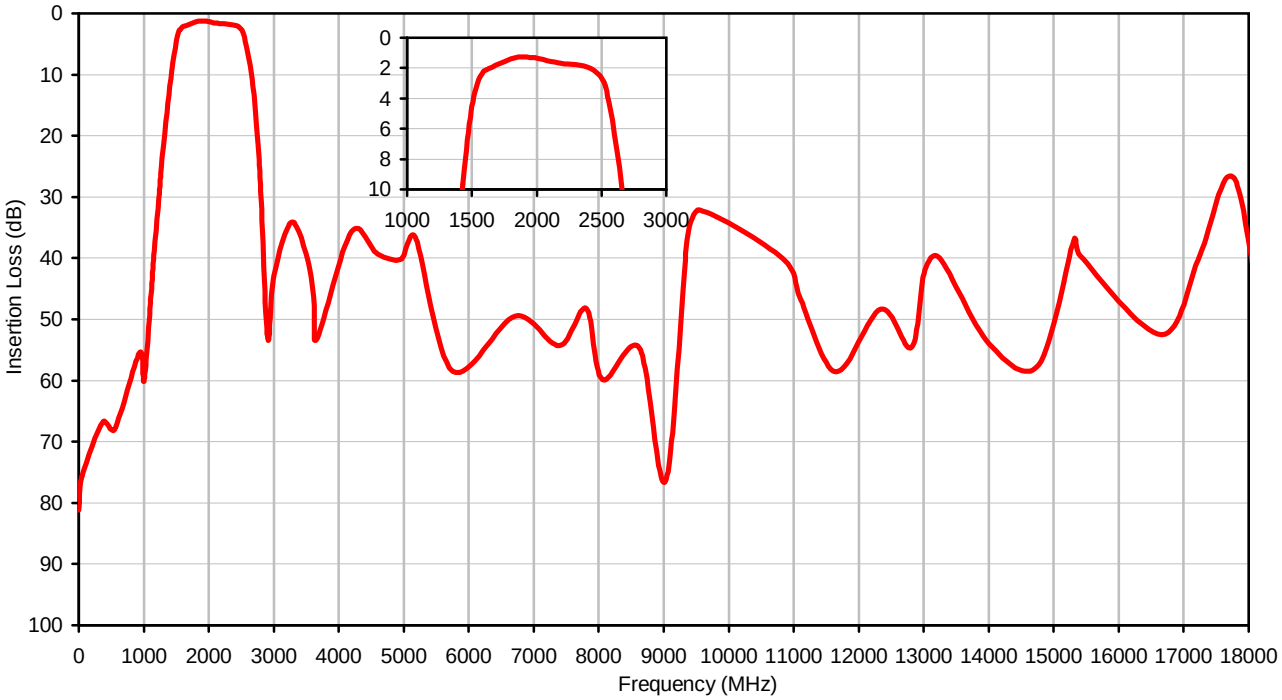
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
50	79.14	0.00
250	68.15	0.01
1200	33.44	0.46
1210	32.29	0.48
1360	16.33	1.16
1461	6.99	3.96
1530	3.28	10.34
1730	1.63	13.17
2000	1.37	15.29
2270	1.80	11.54
2556	3.93	10.24
2635	8.17	4.95
2720	16.45	3.23
2800	27.89	2.78
2850	37.66	2.55
2960	48.75	1.92
5000	39.36	0.43
10000	37.29	1.11
16000	51.77	0.84
18000	29.76	7.46

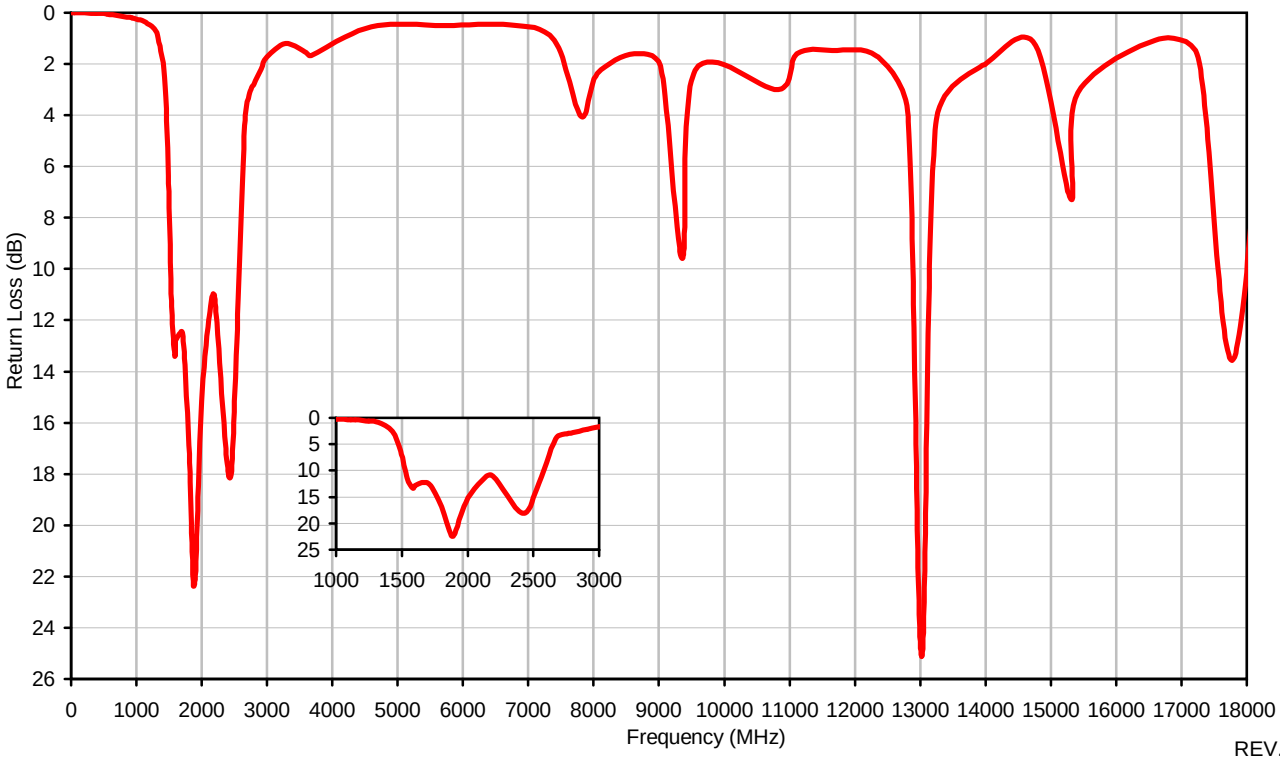
Coaxial SMA Band Pass Filter VBFZ-2000-S+

Typical Performance Curves

Insertion Loss



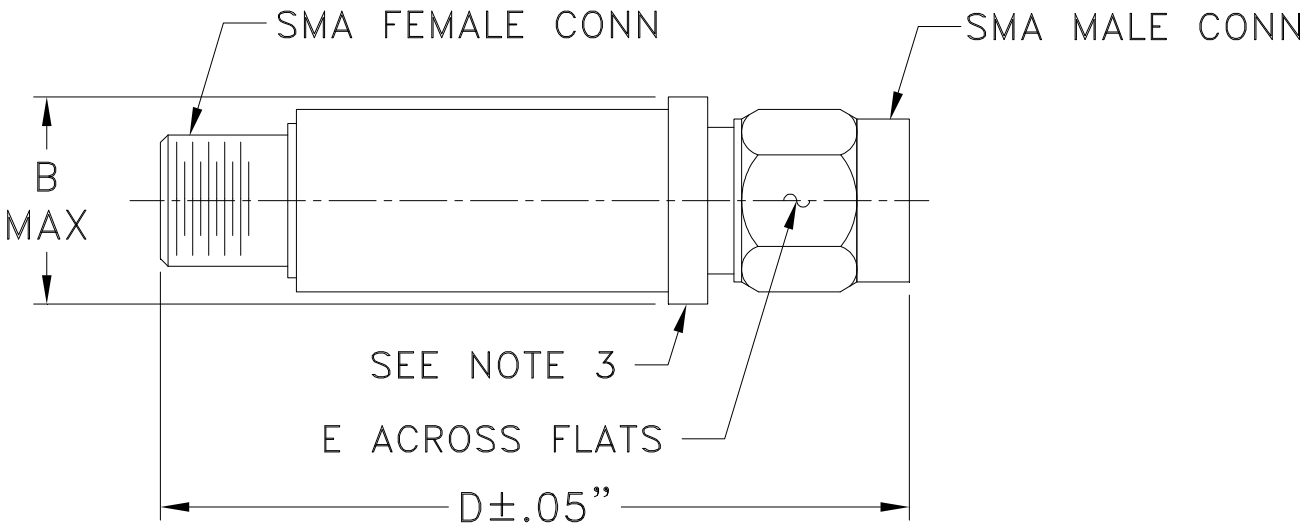
Return Loss



Case Style FF

FF1145

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF1145	-- --	.410 (10.41)	-- --	1.91 (48.51)	.312 (7.92)	11.8

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

Notes:

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

Mini-Circuits

Environmental Specifications ENV28

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