LTCC COAXIAL

Bandpass Filter

VBF-1560+

50Ω 1500 to 1620 MHz SMA Male/Female

KEY FEATURES

- Good Return Loss, 11.7 dB Typ.
- Small Size
- Temperature Stable
- Rugged Unibody Construction

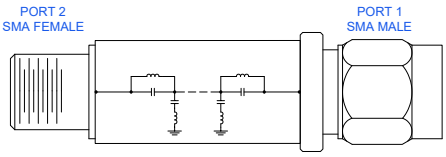


Generic photo used for illustration purposes only

APPLICATIONS

- Harmonic Rejection
- Transmitters/Receivers
- Lab Use
- Test Instrumentation

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' The VBF-1560+ Band Pass Filter is constructed using internal LTCC Band Pass Filter structure to achieve repeatable performance. This offers low insertion loss and good rejection at the band reject edges. Built using Mini Circuits proven unibody construction which integrates the RF connectors with the case body, the VBF-1560+ takes very little space and meets rugged test lab system environment.

ELECTRICAL SPECIFICATIONS AT +25°C

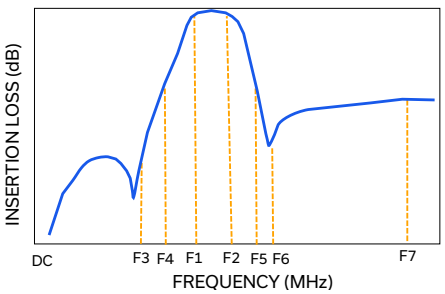
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	Fc	—	—	1560	—	MHz
	Insertion Loss	F1-F2	1500 - 1620	—	—	5	dB
	Return Loss	F1-F2	1500 - 1620	10.2	11.7	—	dB
Stopband, Lower	Rejection	DC-F3	1040	—	30	—	dB
		DC-F4	1100	20	—	—	
Stopband, Upper	Rejection	F5	2100	20	—	—	dB
		F6-F7	2105 - 4200	—	30	—	

ABSOLUTE MAXIMUM RATINGS[1]

Parameter	Ratings
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
Input Power[2]	1.5 W @ +25°C

1. Permanent damage may occur if any of these limits are exceeded.
2. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 0.25 W at +100°C.

TYPICAL FREQUENCY RESPONSE



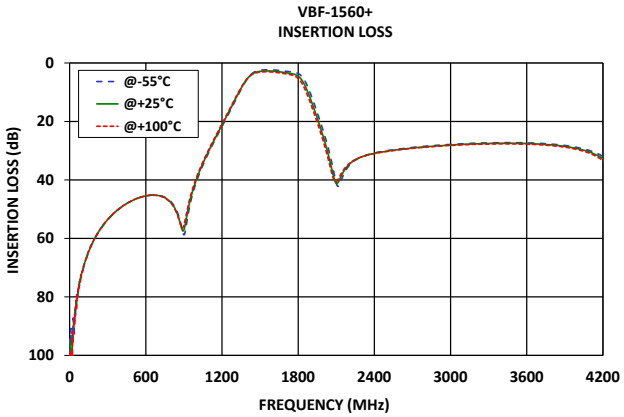
REV. C
ECO-031106
VBF-1560+
MCINU
260907

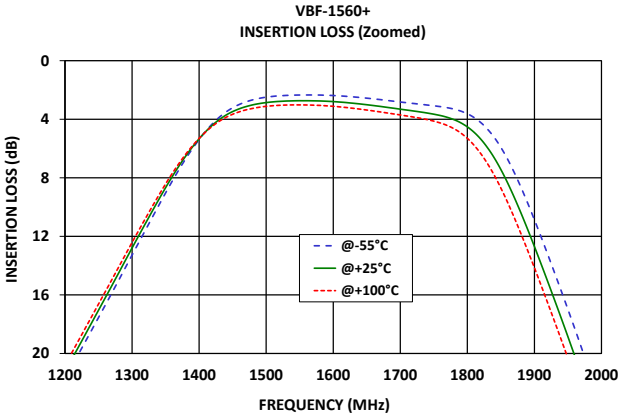
Bandpass Filter

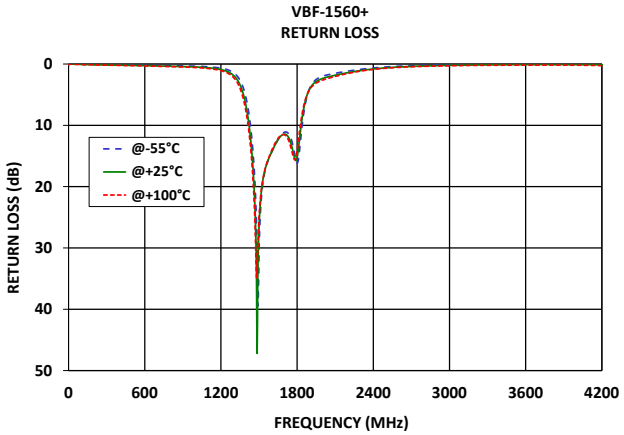
VBF-1560+

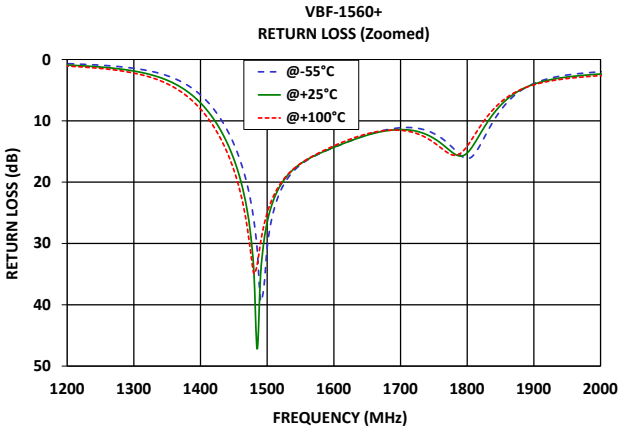
50Ω 1500 to 1620 MHz SMA Male/Female

TYPICAL PERFORMANCE GRAPHS









Bandpass Filter

VBF-1560+

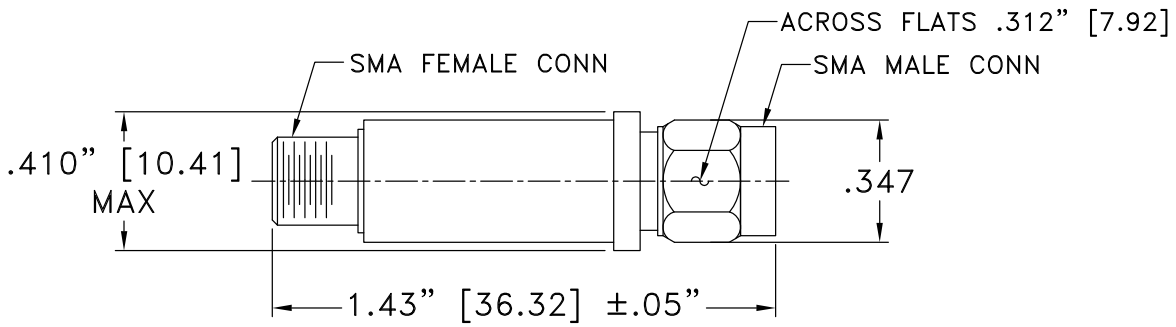
50Ω 1500 to 1620 MHz SMA Male/Female

CONNECTOR DESCRIPTION

Function	Connector
RF1[3]	SMA Male
RF2[3]	SMA Female

3. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.

CASE STYLE DRAWING



Unit weight: 10.0grams
Dimensions are in inches (mm). Tolerances: 2 Pl. ±.04"; 3 Pl. ±.30"

PRODUCT MARKING*: VBF-1560+

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

Bandpass Filter

VBF-1560+

50Ω 1500 to 1620 MHz SMA Male/Female

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	FF704
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

Coaxial Band Pass Filter VBF-1560+

Typical Performance Data

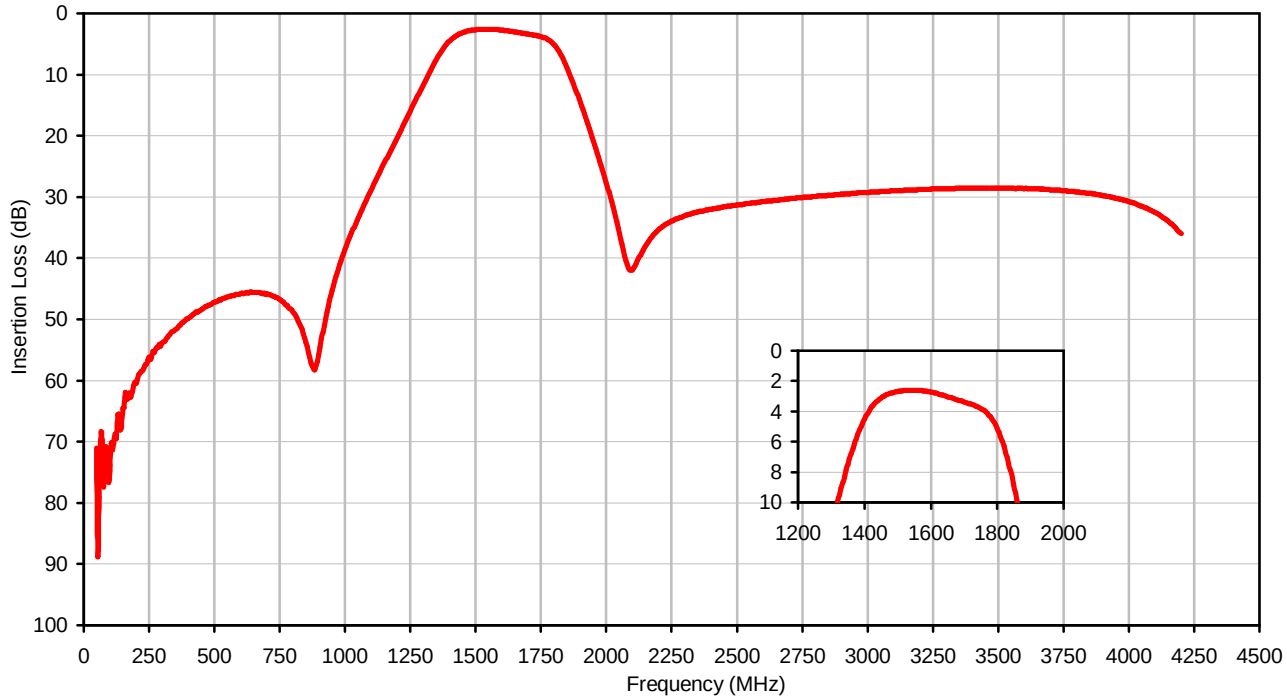
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
50	71.05	0.09
200	60.45	0.20
500	47.20	0.32
1040	34.41	0.66
1100	28.83	0.77
1250	15.98	1.53
1340	8.27	3.81
1400	4.51	9.06
1500	2.68	31.86
1560	2.61	23.39
1620	2.83	15.32
1780	4.36	16.94
1850	8.85	6.51
1910	15.74	3.74
2000	27.66	2.68
2100	41.90	2.13
2105	41.62	2.09
3500	28.55	0.35
4200	36.01	0.45

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The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see minicircuits.com

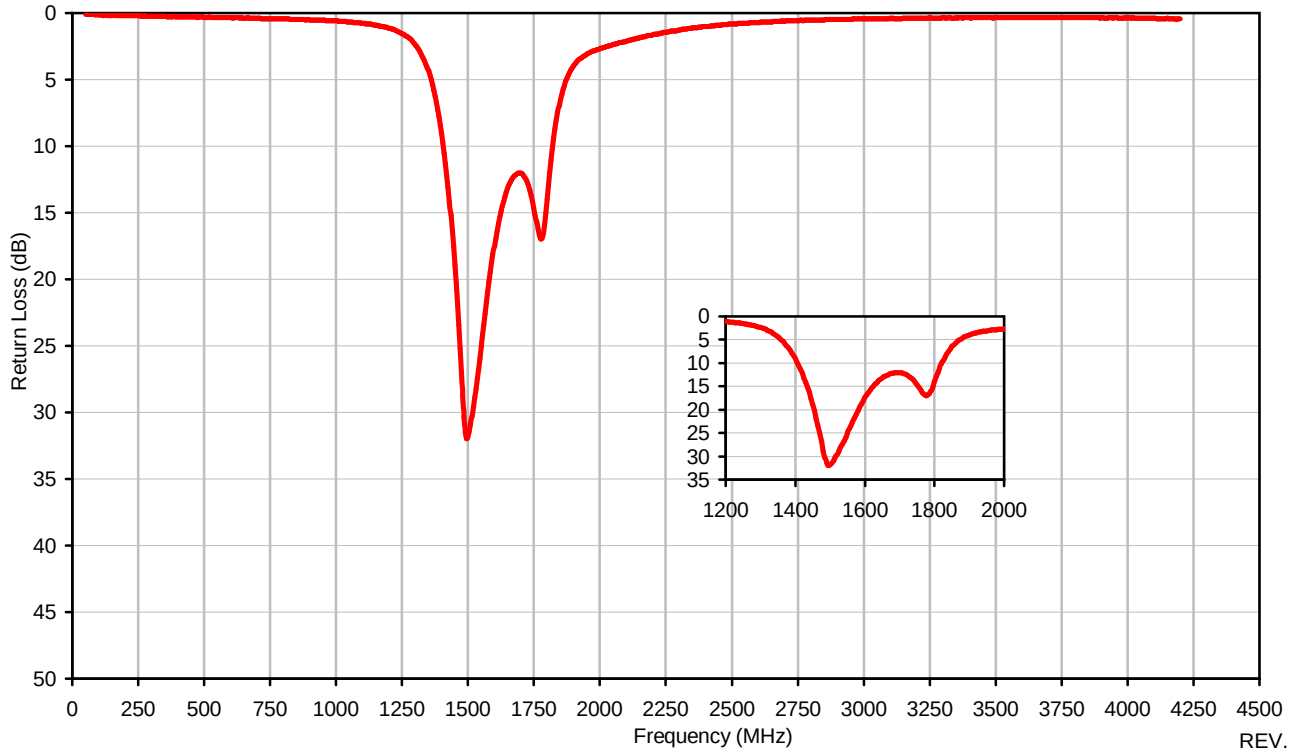
Coaxial Band Pass Filter VBF-1560+

Typical Performance Curves

Insertion Loss



Return Loss

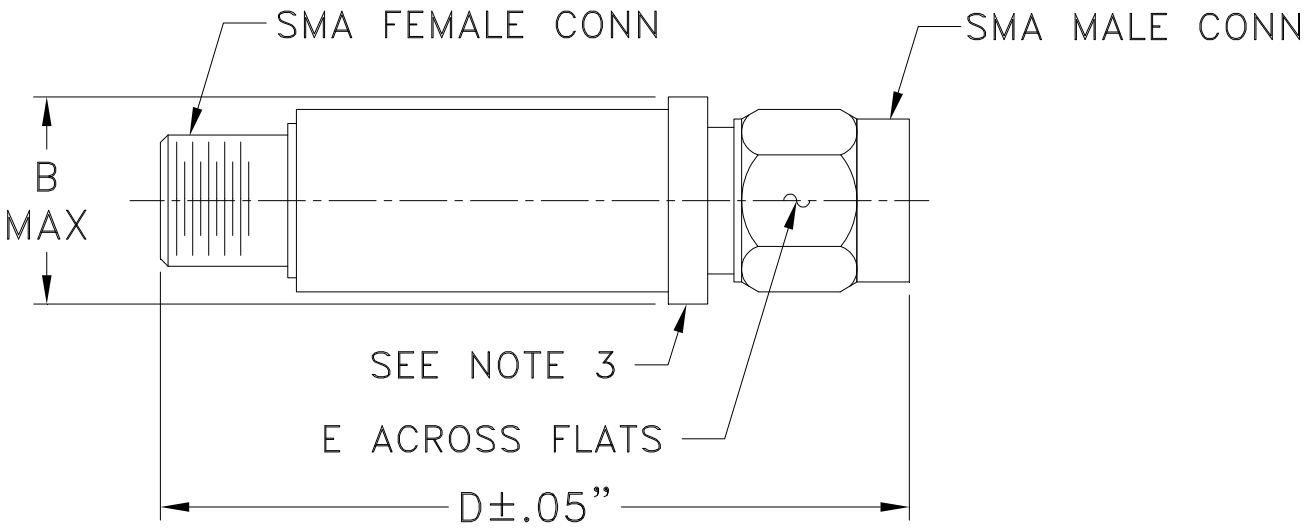


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Case Style FF

FF704

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF704	-- --	.410 (10.41)	-- --	1.43 (36.32)	.312 (7.92)	10.0

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.

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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

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