

# Coaxial Bandpass Filter

## VBF-4440+

50Ω 4200 to 4700 MHz

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	1.5W at 25°C

\*Passband rating, derate linearly to 0.25W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

### Features

- Good VSWR, 1.2:1 Typ @ Passband
- Rugged uni-body construction, small size
- Temperature stable

### Applications

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



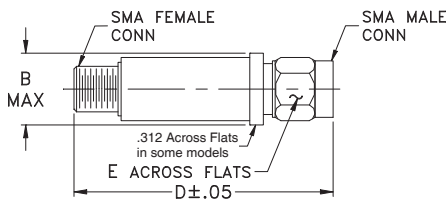
Generic photo used for illustration purposes only  
CASE STYLE: FF704

Connectors	Model
SMA	VBF-4440+

### +RoHS Compliant

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

### Outline Drawing



### Outline Dimensions (inch/mm)

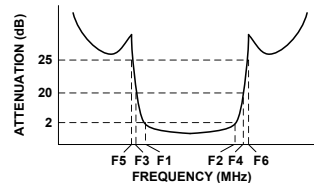
B	D	E	wt.
.410	1.43	.312	grams
10.41	36.32	7.92	10

Note: Please refer to case style drawing for details

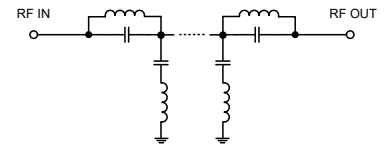
### Bandpass Filter Electrical Specifications (T<sub>AMB</sub> = 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 2dB) F1 - F2	STOPBANDS (MHz)				VSWR (:1)	
		Loss > 20dB		Loss 25dB Typ		Passband Max.	Stopband Typ.
		F3	F4	F5	F6		
4440	4200 - 4700	2000	6750	2000	6650 - 12000	1.6	20

### Typical Frequency Response

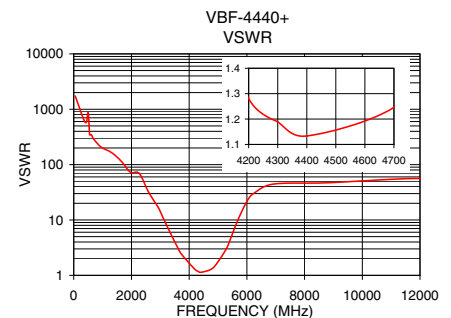
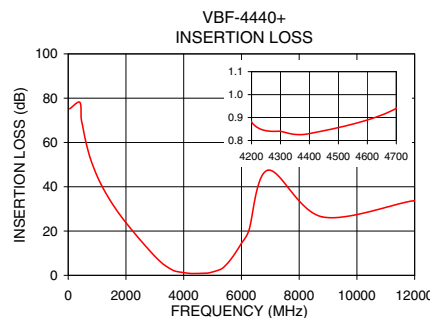


### Functional Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	75.21	1737.18
500	67.47	868.59
1000	44.89	868.59
2000	23.83	96.51
2300	19.02	54.29
2900	9.98	18.50
3300	4.99	6.49
3700	1.99	2.58
4200	0.88	1.28
4440	0.84	1.13
4700	0.94	1.25
5000	1.36	1.70
5400	3.89	4.12
5650	7.53	8.86
6000	14.41	21.73
6650	31.12	44.55
6750	35.25	43.44
9000	26.00	42.38
12000	34.49	52.65



### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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](http://www.minicircuits.com/MCLStore/terms.jsp)



# Coaxial Band Pass Filter

# VBF-4440+

## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
50	75.21	0.01
500	67.47	0.02
1000	44.89	0.02
2000	23.83	0.18
2300	19.02	0.32
2900	9.98	0.94
3300	4.99	2.70
3700	1.99	7.09
4200	0.88	18.20
4440	0.84	24.41
4700	0.94	19.22
5000	1.36	11.74
5400	3.89	4.30
5650	7.53	1.97
6000	14.41	0.80
6650	31.12	0.39
6750	35.25	0.40
9000	26.00	0.41
12000	34.49	0.33

REV. X1  
VBF-4440+  
080221  
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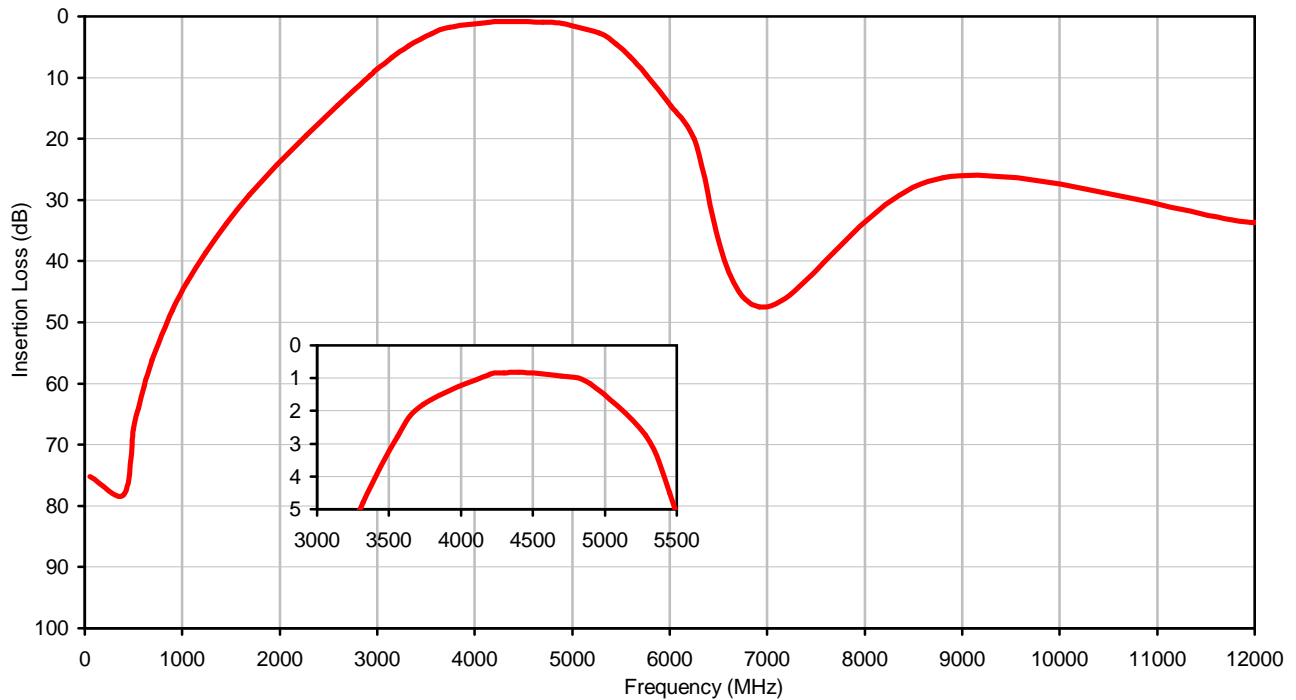


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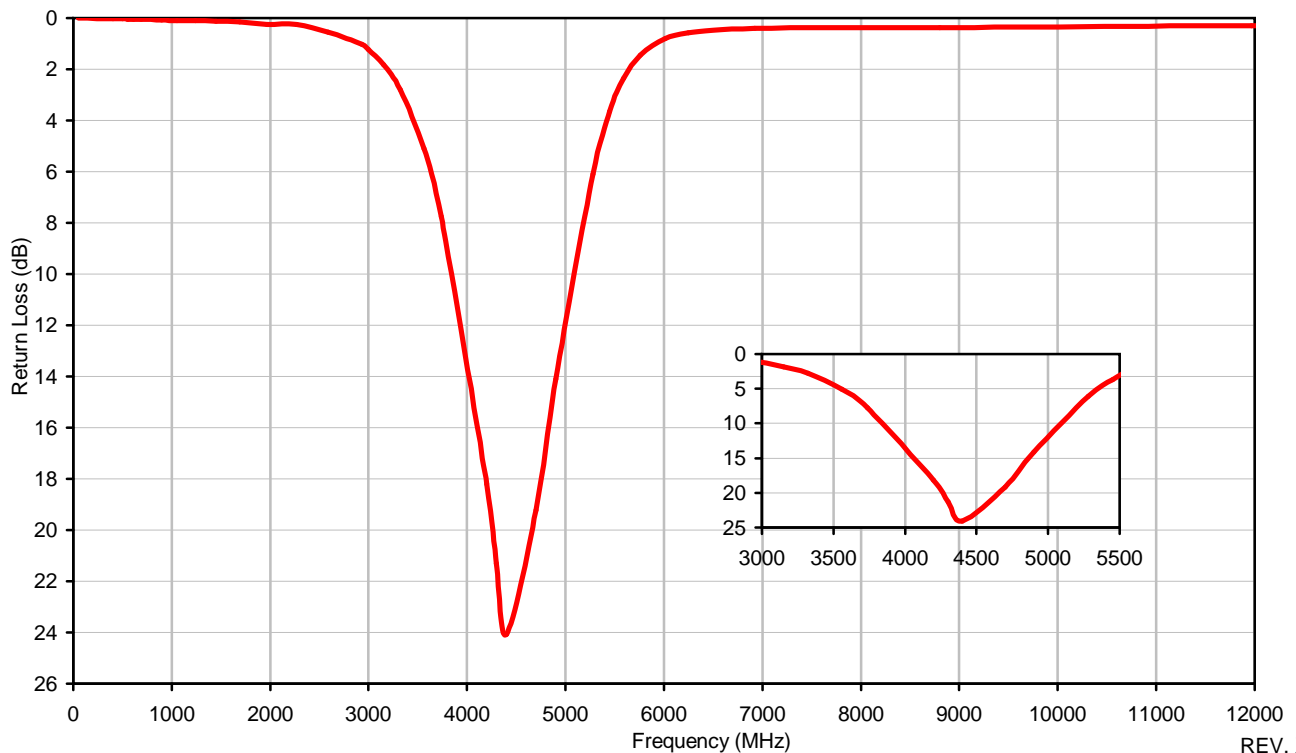


## Typical Performance Curves

### Insertion Loss



### Return Loss



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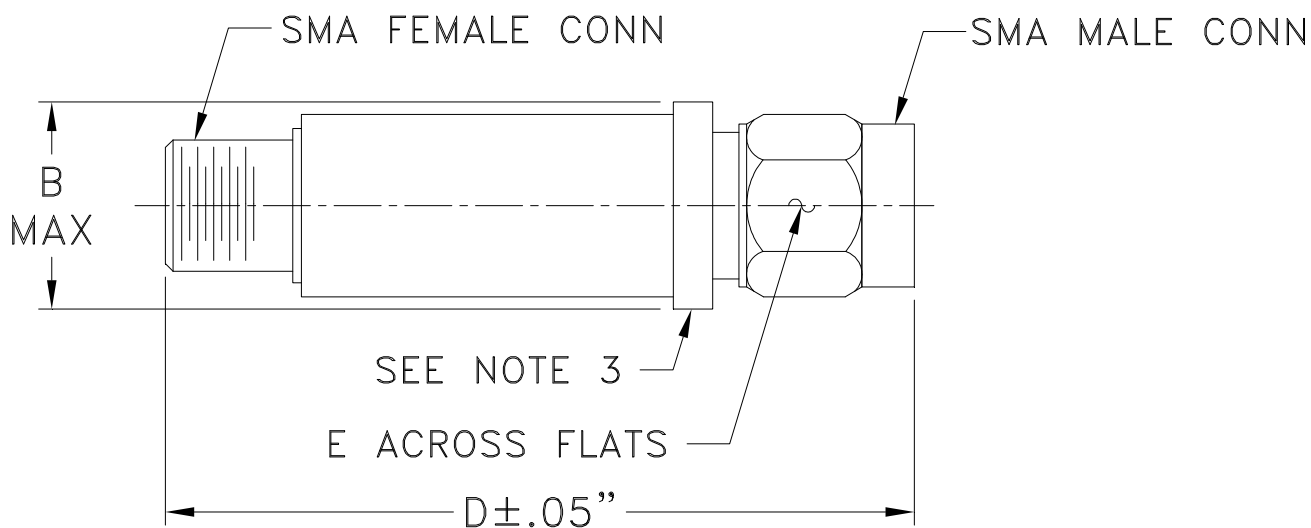


# Case Style

# 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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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.

<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
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