



CAVITY COAXIAL

Bandpass Filter

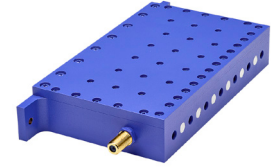
ZVBP-611-75-F+

75 Ω

608.5 to 613.5 MHz F-Female

KEY FEATURES

- Low Insertion Loss, 3.1 dB Typ.
- Good Return Loss, 17 dB Typ.
- High Rejection, 80 dB Typ.
- Stopband up to 1950 MHz
- Power Handling : 5 Watts
- Narrow Band, 0.82% Fractional Bandwidth



Generic photo used for illustration purposes only

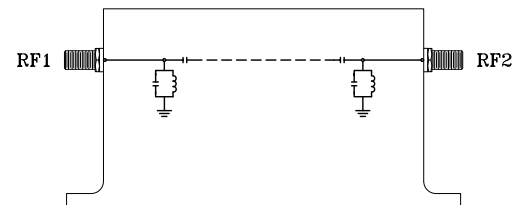
APPLICATIONS

- Medical

PRODUCT OVERVIEW

Mini-Circuits' ZVBP-611-75-F+ is a coaxial cavity filter designed by implementing resonant structures with very high Q and are ideal for narrow-band, high-selectivity applications. Mini-Circuits' coaxial cavity filters feature a special protective assembly to prevent accidental de-tuning that would otherwise require expensive replacement or return to factory for re-tuning. Precise machining allows realization of cavity filters with small form factors for applications where size is critical.

FUNCTIONAL DIAGRAM

ELECTRICAL SPECIFICATIONS¹ AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	Fc	—	—	611	—	MHz
	Insertion Loss	F1-F2	608.5 - 613.5	—	3.1	4	dB
	Return Loss	F1-F2	608.5 - 613.5	14	17	—	dB
Stopband, Lower	Rejection	DC-F3	DC - 600	70	80	—	dB
		F3-F4	600 - 606	30	35	—	
Stopband, Upper	Rejection	F5-F6	616 - 620	30	38	—	dB
		F6-F7	620 - 1950	70	80	—	

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

ABSOLUTE MAXIMUM RATINGS^{2,3}

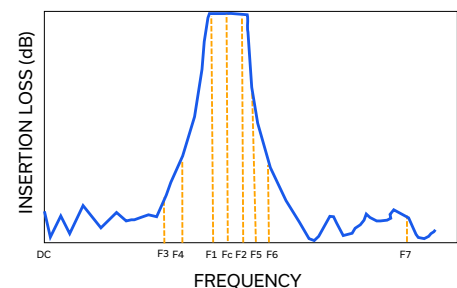
Parameter	Ratings
Operating Temperature	+15°C to +50°C
Storage Temperature	-40°C to +60°C
Input Power ⁴	5 W at +25°C

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

3. Input and output ports are DC short to ground.

4. Power rating applies only to signals within the passband.

TYPICAL FREQUENCY RESPONSE AT +25°C





CAVITY COAXIAL

Bandpass Filter

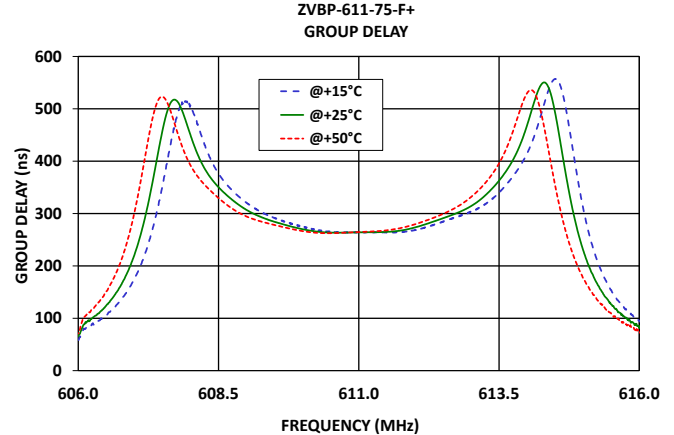
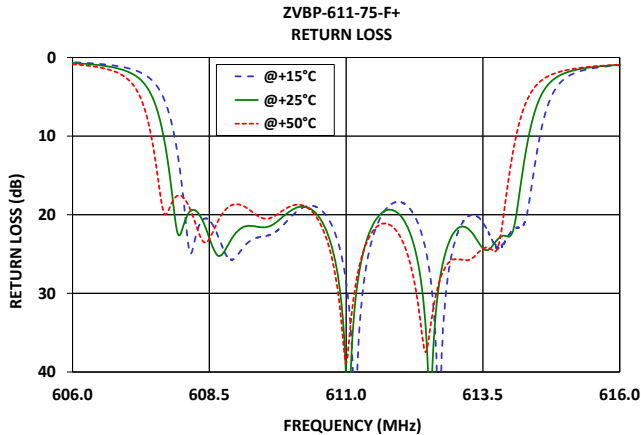
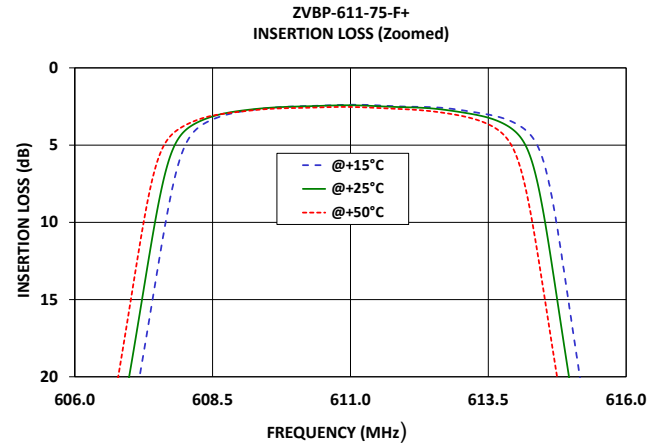
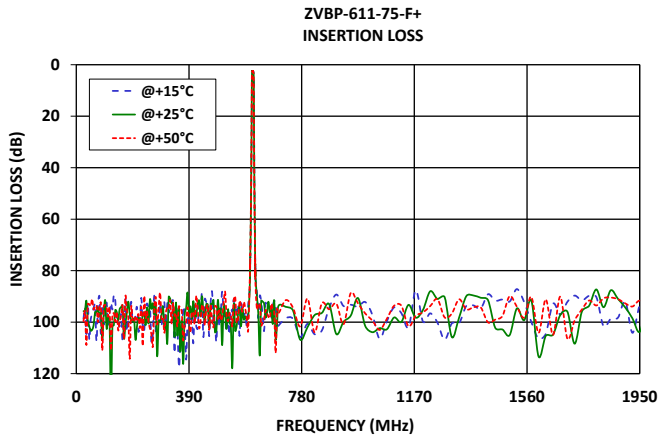
ZVBP-611-75-F+

Mini-Circuits

75Ω

608.5 to 613.5 MHz F-Female

TYPICAL PERFORMANCE GRAPHS





CAVITY COAXIAL

Bandpass Filter

ZVBP-611-75-F+

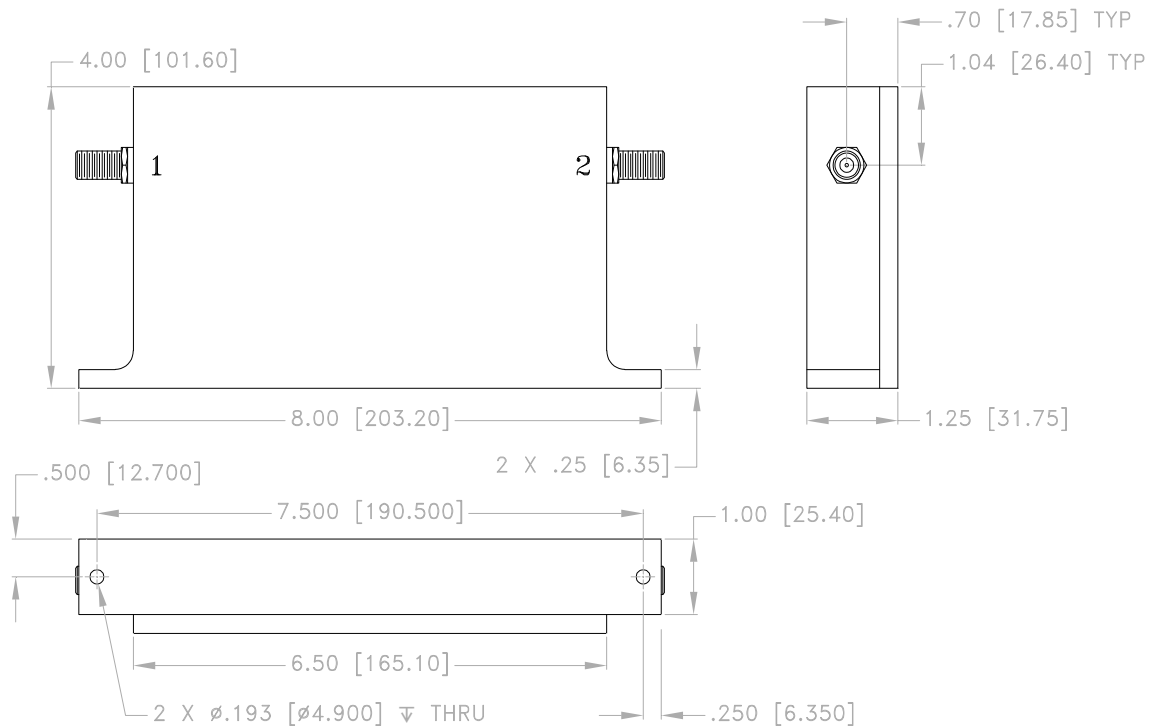
75Ω

608.5 to 613.5 MHz F-Female

CONNECTOR DESCRIPTION

Function	Marking on Unit	Connector
RF1 ¹	1	F- Female
RF2 ¹	2	F- Female

CASE STYLE DRAWING



Unit Weight: 815 Grams.

Dimensions are in inches (mm). Tolerances: 2 PL ± .10; 3 PL ± .015

PRODUCT MARKING*: ZVBP-611-75-F+

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





Mini-Circuits

CAVITY COAXIAL

Bandpass Filter

ZVBP-611-75-F+

75Ω

608.5 to 613.5 MHz F-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	BAM3636
RoHS Status	Compliant
Environmental Ratings	ENV144

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



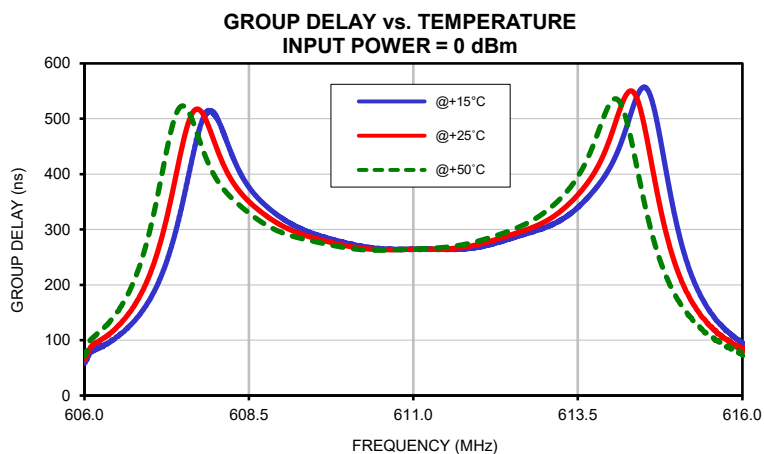
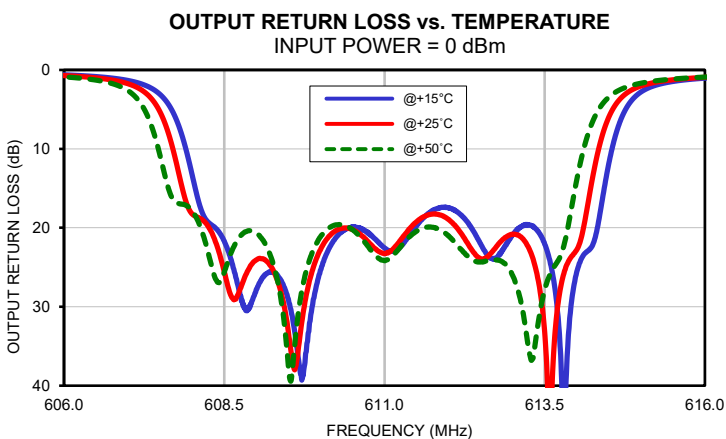
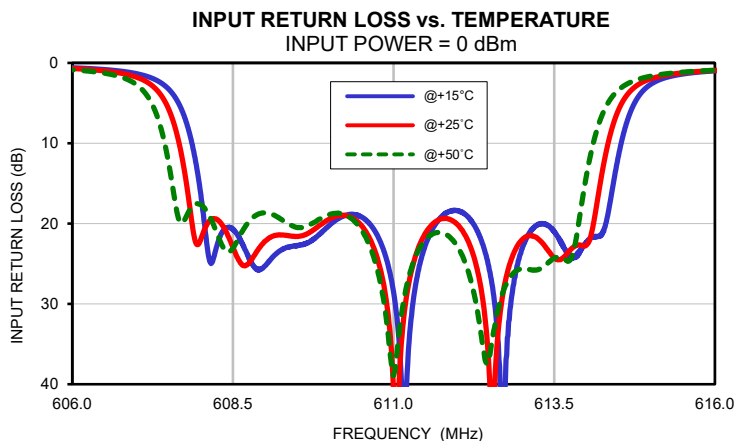
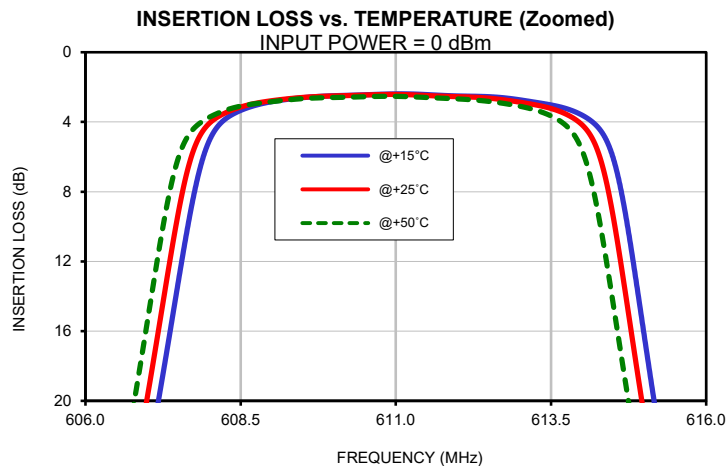
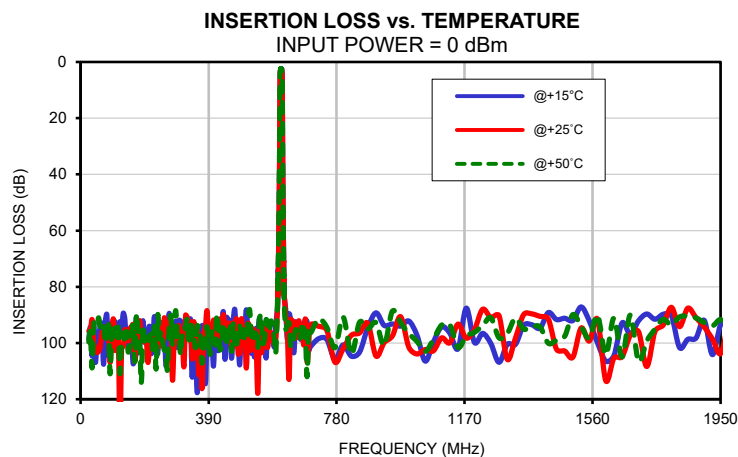
Typical Performance Data

FREQ.	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
(MHz)	(dB)			(dB)			(dB)		
	@+15°C	@+25°C	@+50°C	@+15°C	@+25°C	@+50°C	@+15°C	@+25°C	@+50°C
25.0	98.70	95.73	99.64	0.02	0.02	0.02	0.02	0.02	0.02
50.0	98.80	103.30	93.71	0.03	0.03	0.03	0.03	0.03	0.03
100.0	97.05	91.52	93.27	0.07	0.07	0.06	0.06	0.06	0.05
115.0	96.96	98.91	94.47	0.08	0.08	0.07	0.07	0.07	0.07
120.0	92.40	131.94	110.94	0.08	0.08	0.08	0.08	0.07	0.07
125.0	95.03	101.73	97.05	0.08	0.08	0.08	0.08	0.08	0.07
130.0	89.39	101.20	96.46	0.08	0.08	0.08	0.08	0.08	0.07
135.0	91.63	95.33	99.80	0.09	0.09	0.08	0.08	0.08	0.08
140.0	100.33	96.03	95.99	0.09	0.09	0.08	0.08	0.08	0.08
145.0	100.22	99.31	103.17	0.09	0.09	0.09	0.09	0.09	0.08
150.0	101.64	94.95	99.94	0.10	0.10	0.09	0.09	0.09	0.09
200.0	99.57	98.66	99.89	0.13	0.13	0.13	0.12	0.12	0.12
205.0	97.45	106.90	97.56	0.13	0.14	0.13	0.12	0.13	0.12
210.0	94.19	101.68	99.13	0.14	0.14	0.13	0.13	0.13	0.12
220.0	100.05	99.47	102.33	0.14	0.15	0.14	0.13	0.14	0.13
230.0	101.93	97.39	109.30	0.15	0.15	0.15	0.14	0.14	0.14
240.0	94.32	101.15	98.39	0.15	0.16	0.16	0.15	0.15	0.15
250.0	94.05	100.54	99.98	0.16	0.16	0.16	0.16	0.15	0.15
260.0	108.05	94.86	104.67	0.16	0.16	0.16	0.16	0.15	0.15
270.0	89.44	97.04	93.82	0.17	0.17	0.17	0.16	0.16	0.16
280.0	100.51	113.29	100.84	0.17	0.18	0.17	0.17	0.17	0.17
300.0	91.95	93.89	98.04	0.18	0.19	0.19	0.18	0.18	0.18
600.0	87.42	87.77	85.07	0.23	0.26	0.30	0.23	0.25	0.30
606.0	39.81	37.20	34.32	0.60	0.70	0.86	0.62	0.71	0.88
607.0	23.50	19.71	15.39	1.34	1.78	2.71	1.33	1.75	2.63
608.5	3.34	3.14	3.09	20.66	22.92	23.06	21.67	25.55	25.65
609.5	2.61	2.59	2.66	22.78	21.61	20.49	29.00	33.14	37.49
610.0	2.50	2.51	2.60	20.23	19.44	18.88	25.39	22.81	21.16
610.5	2.44	2.46	2.55	19.18	20.25	20.80	19.99	20.22	20.23
611.0	2.39	2.42	2.53	28.53	41.04	38.93	22.56	23.26	24.16
611.5	2.43	2.48	2.60	22.59	21.14	21.96	19.72	19.23	20.43
611.6	2.45	2.50	2.61	20.75	20.11	21.32	18.83	18.65	20.03
611.7	2.47	2.51	2.63	19.53	19.55	21.12	18.07	18.32	19.88
611.8	2.48	2.53	2.65	18.83	19.38	21.30	17.62	18.24	19.99
612.0	2.51	2.55	2.68	18.42	20.18	22.93	17.43	18.93	21.00
612.5	2.55	2.63	2.82	26.06	40.35	36.27	22.01	23.91	24.34
612.6	2.57	2.67	2.87	32.16	36.20	31.67	23.37	23.70	24.18
612.8	2.64	2.76	2.97	31.96	25.23	26.85	23.20	21.85	24.15
613.0	2.73	2.87	3.10	23.16	22.01	25.65	20.89	20.81	26.04
613.1	2.79	2.92	3.18	21.32	21.54	25.67	19.99	20.98	28.42
613.3	2.90	3.05	3.37	20.05	22.29	25.58	19.72	23.51	36.73
613.5	3.02	3.23	3.65	21.06	24.25	24.32	22.07	33.21	27.87
614.0	3.61	4.16	5.62	22.37	22.67	14.07	25.59	22.79	13.94
615.0	16.19	20.83	25.38	2.67	1.98	1.65	2.81	2.04	1.68
616.0	36.57	39.68	42.68	0.99	0.93	0.91	1.04	0.93	0.90
618.0	62.80	64.60	66.24	0.54	0.54	0.55	0.57	0.53	0.54
619.0	72.65	74.68	76.33	0.46	0.47	0.49	0.49	0.46	0.47
620.0	83.00	82.42	84.73	0.42	0.43	0.44	0.44	0.41	0.43
700.0	101.38	93.64	96.62	0.21	0.23	0.26	0.22	0.21	0.25
750.0	98.71	95.45	94.38	0.19	0.21	0.25	0.21	0.21	0.25
800.0	100.67	102.02	90.85	0.17	0.19	0.23	0.17	0.18	0.23
900.0	98.28	104.63	92.78	0.12	0.14	0.20	0.13	0.14	0.21
1000.0	92.19	101.48	96.62	0.06	0.09	0.16	0.07	0.10	0.17
1200.0	99.79	95.23	96.22	0.03	0.00	0.10	0.01	0.02	0.11
1400.0	94.71	90.54	94.29	0.05	0.01	0.09	0.03	0.00	0.11
1500.0	91.99	105.03	89.88	0.03	0.01	0.12	0.01	0.01	0.13
1600.0	106.47	113.36	104.18	0.02	0.07	0.18	0.04	0.06	0.18
1700.0	92.08	95.98	106.50	0.11	0.16	0.28	0.15	0.16	0.28
1800.0	90.25	87.29	93.52	0.21	0.27	0.38	0.26	0.26	0.38
1950.0	93.52	103.77	91.66	0.44	0.47	0.60	0.52	0.46	0.59

Typical Performance Data

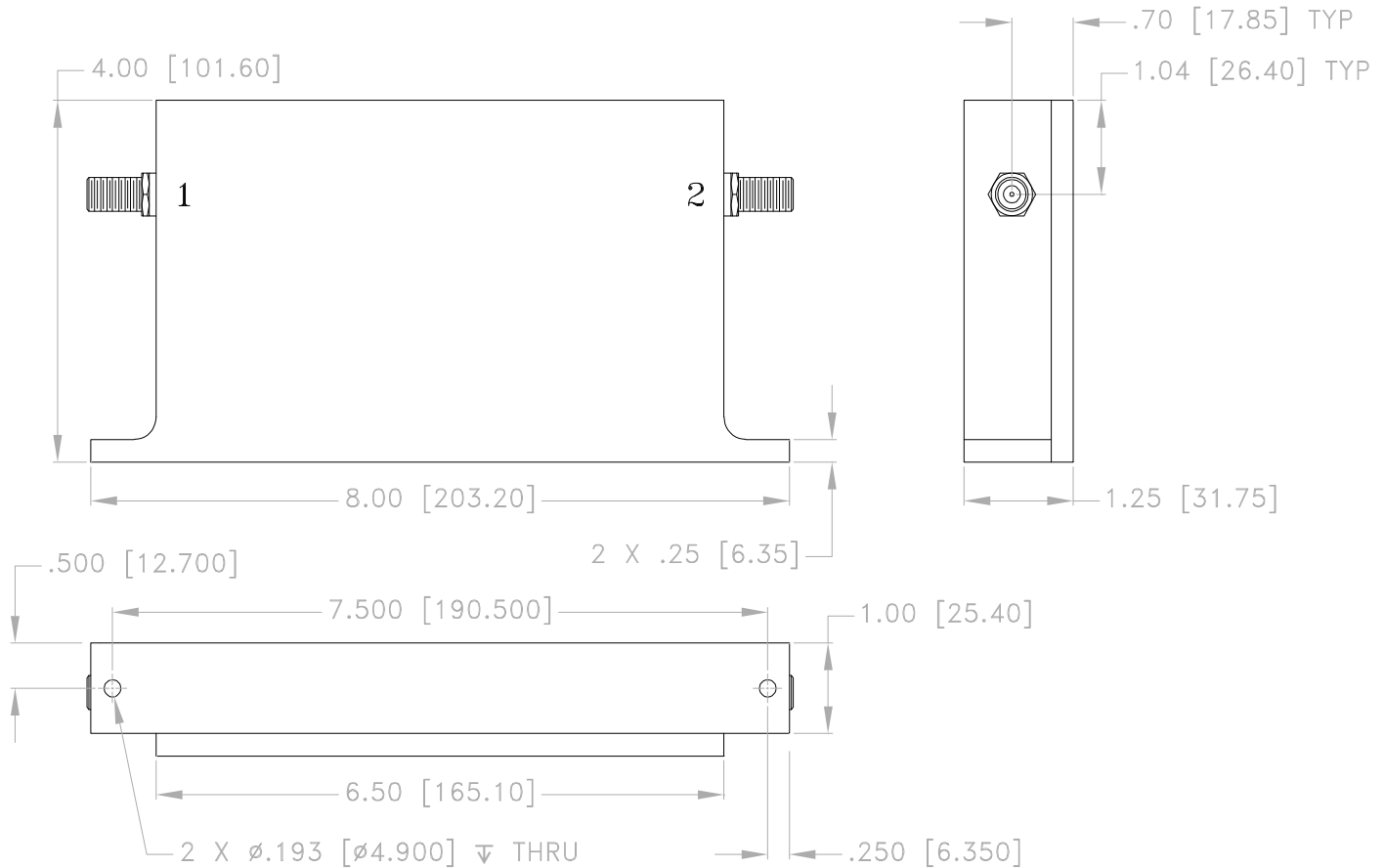
FREQ.	GROUP DELAY		
(MHz)	(nsec)		
	@+15°C	@+25°C	@+50°C
608.5	376.79	350.20	329.75
608.6	361.19	339.86	320.70
608.7	349.37	330.27	312.68
608.8	338.19	321.33	305.54
608.9	329.17	313.81	299.30
609.0	320.20	306.99	294.49
609.1	313.24	300.87	290.17
609.2	306.79	296.01	286.55
609.3	300.06	291.73	283.64
609.4	296.38	287.42	280.65
609.5	290.91	284.29	278.12
609.6	287.67	281.22	275.64
609.7	284.36	277.85	273.01
609.8	279.71	275.29	270.80
610.0	274.12	269.93	266.28
610.1	271.31	268.07	264.94
610.2	270.68	266.38	263.66
610.3	266.84	264.94	262.84
610.4	265.77	263.98	262.61
610.5	265.69	263.60	262.48
610.6	263.92	263.59	262.80
610.7	263.57	263.48	263.26
610.8	264.59	263.69	263.66
610.9	263.87	264.05	264.21
611.0	263.75	264.13	264.64
611.1	264.88	264.22	265.06
611.2	263.95	264.32	265.57
611.3	264.04	264.51	266.20
611.5	263.47	265.03	268.00
611.8	264.73	268.48	273.45
611.9	267.16	270.73	276.27
612.0	267.93	273.43	279.49
612.2	274.32	279.96	286.62
612.4	280.57	287.18	294.78
612.6	287.92	294.78	304.31
612.8	296.29	303.32	315.76
613.0	303.05	314.08	331.48
613.1	309.14	321.15	340.91
613.2	313.69	329.50	351.84
613.4	330.42	350.26	378.51
613.5	339.32	362.83	395.74

Typical Performance Curves



Outline Dimensions

BAM3636



Dimensions are in inches (mm). Tolerances: 2 PL. $\pm .10$; 3 PL. $\pm .015$

Notes:

1. Case Material: Aluminum.
2. Case Finish: Powder coated.
3. Unit Weight: 815 Grams.
4. Refer to the individual model data sheet for the type of connectors available.



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	-40° to 100° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 40°C, 96 hours Units may require bake-out after humidity to restore full performance.	MIL-STD-202. method 103. Condition B
Thermal Shock	-40°C to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except -40°C and +100°C