



CAVITY COAXIAL

Bandpass Filter

ZVBP-K16R95G+

50Ω

16.45 to 17.45 GHz 2.92mm Female

KEY FEATURES

- Low Insertion Loss, 0.4 dB Typ.
- Good Return Loss, 19 dB Typ.
- High Rejection, 87 dB Typ.
- Power Handling: 5 W
- Stopband up to 40 GHz

APPLICATIONS

- 6G FR3 Transmit/ Receive Bands

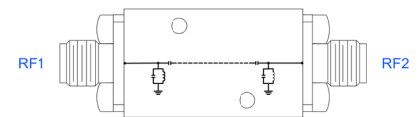


Generic photo used for illustration purposes only

PRODUCT OVERVIEW

Mini-Circuits' cavity filters are designed by implementing resonant structures with very high Q and are ideal for narrow-band, high-selectivity applications. These designs can provide bandwidths as narrow as 3% with very high selectivity and excellent low noise floor. Low insertion loss combined with excellent power handling makes them well-suited for transmitter and receiver front end. Advanced filter design and construction enables stopband width greater than 3x the center frequency.

FUNCTIONAL DIAGRAM

ELECTRICAL SPECIFICATIONS^{1,2} AT +25°C

Parameter		F#	Frequency (GHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	Fc	—	—	16.95	—	GHz
	Insertion Loss	F1-F2	16.45 - 17.45	—	0.42	0.7	dB
	Return Loss	F1-F2	16.45 - 17.45	14	19	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 8.25	80	87	—	dB
		F3-F4	8.25 - 15	30	37	—	
Stop Band, Upper	Rejection	F5-F6	18.75 - 23.2	30	35	—	dB
		F6-F7	23.2 - 40	70	78	—	

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

2. Data measured after calibrating using 2.92mm cal kit.

ABSOLUTE MAXIMUM RATINGS^{3,4}

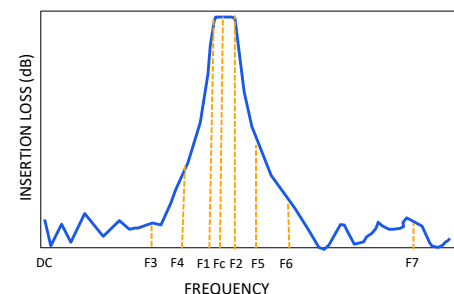
Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power ⁵	5 W at +25°C

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

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

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

TYPICAL FREQUENCY RESPONSE AT +25°C





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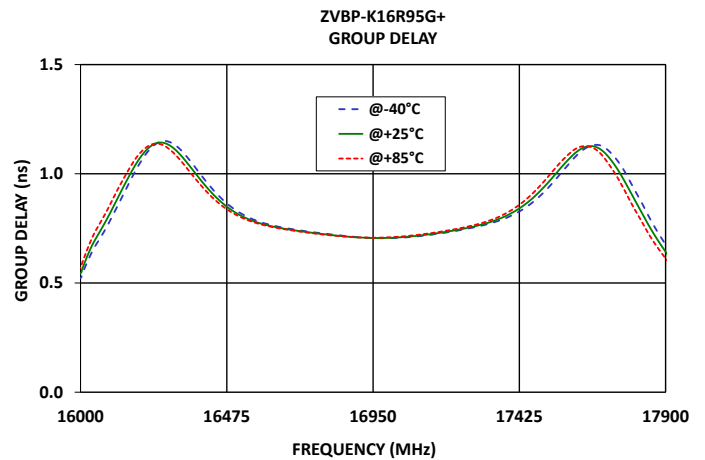
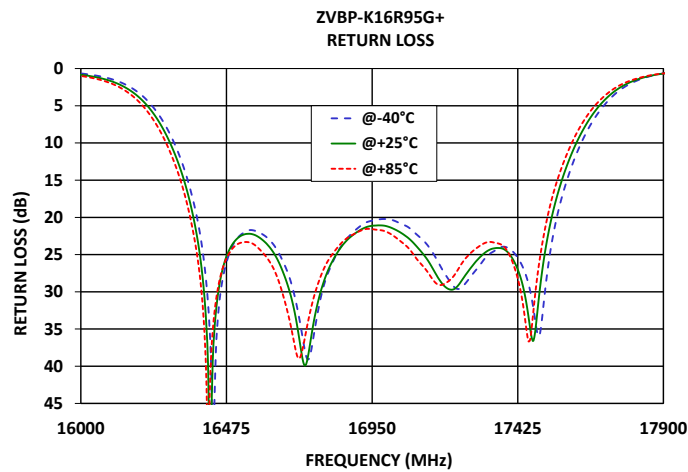
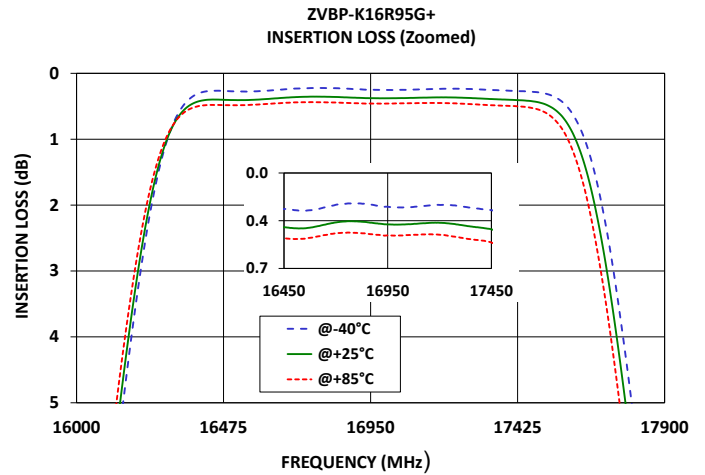
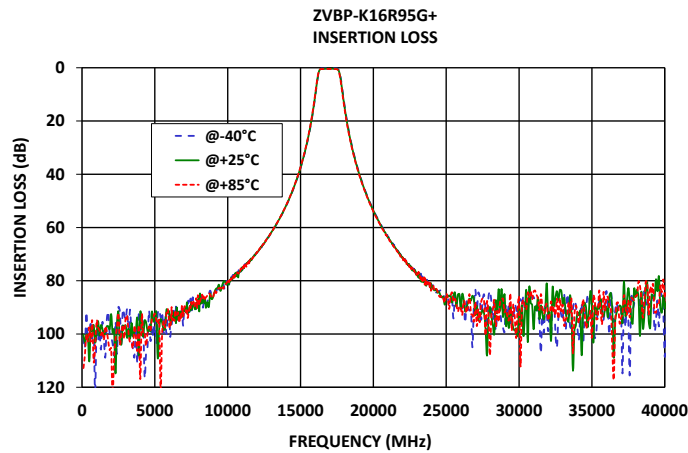
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TYPICAL PERFORMANCE GRAPHS





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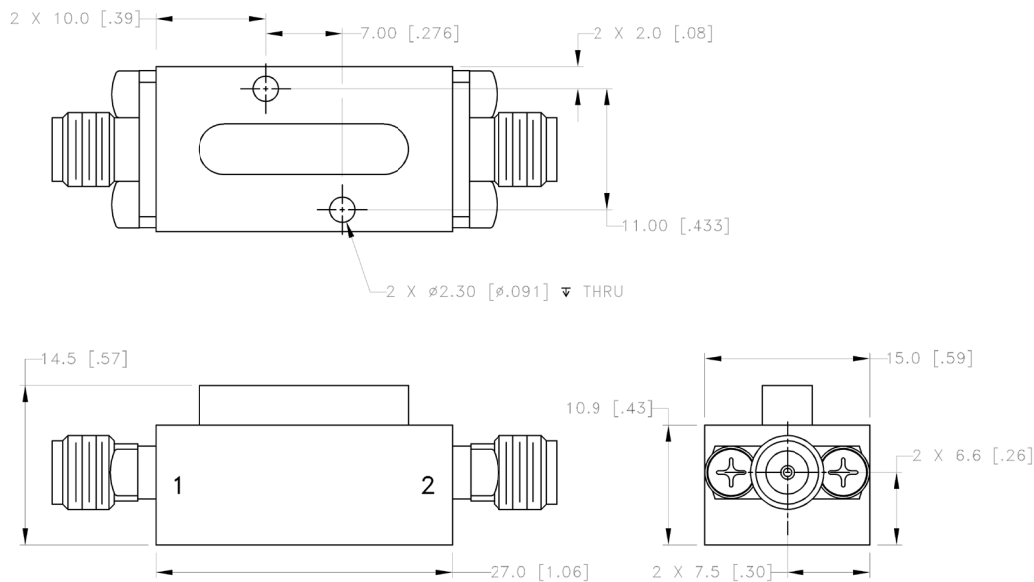
16.45 to 17.45 GHz

2.92mm Female

CONNECTOR DESCRIPTION

Function	Marking on Unit	Connector
RF1 ¹	1	2.92mm Female
RF2 ¹	2	2.92mm Female

CASE STYLE DRAWING



Unit Weight: 40 Grams.

Dimensions are in mm (inches). Tolerances: 1 Pl. ± 1.5 (0.06); 2 Pl. ± 0.38 (0.015)

PRODUCT MARKING*: ZVBP-K16R95G+

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





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50Ω

16.45 to 17.45 GHz

2.92mm 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	BAY3707
RoHS Status	Compliant
Environmental Ratings	ENV77T1

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



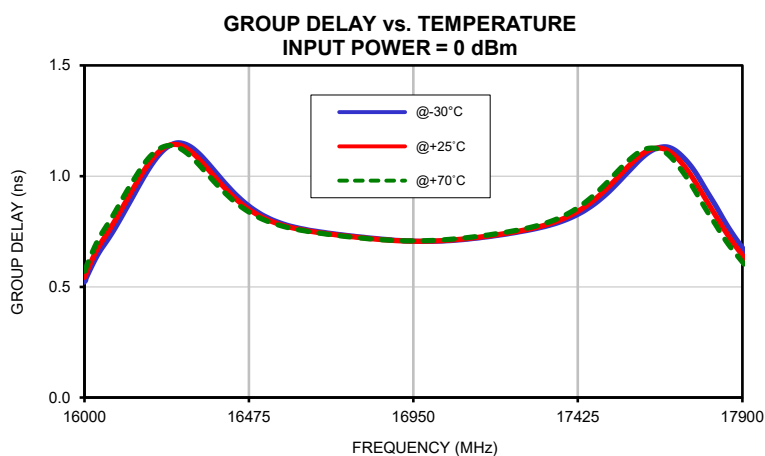
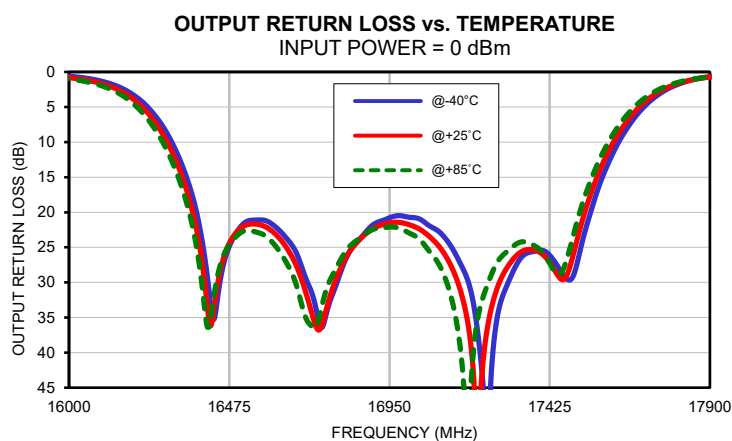
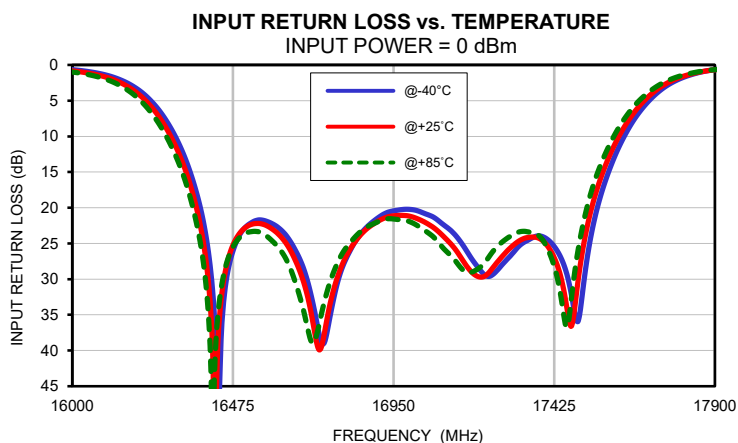
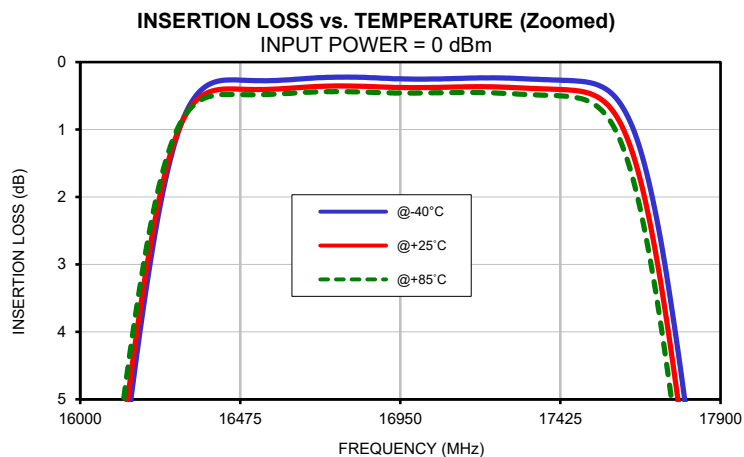
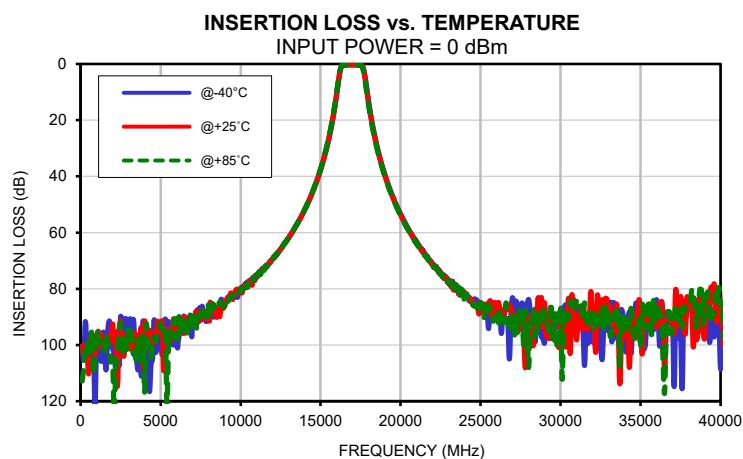
Typical Performance Data

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
100	101.46	100.28	112.80	0.03	0.03	0.04	0.00	0.01	0.02
200	105.12	103.26	107.86	0.03	0.03	0.05	0.01	0.02	0.03
400	101.98	100.48	102.76	0.04	0.05	0.07	0.02	0.04	0.05
800	98.46	96.65	110.37	0.06	0.07	0.10	0.04	0.06	0.09
1000	98.22	99.72	95.04	0.06	0.08	0.10	0.04	0.07	0.09
1500	101.89	100.78	102.18	0.06	0.08	0.11	0.04	0.08	0.11
2000	101.34	92.50	105.30	0.07	0.08	0.12	0.04	0.08	0.11
2400	107.47	95.82	97.37	0.06	0.09	0.12	0.03	0.08	0.11
3000	94.58	96.79	93.30	0.05	0.08	0.11	0.02	0.07	0.10
3500	105.65	100.90	105.17	0.04	0.07	0.10	0.01	0.06	0.09
4500	104.68	99.00	99.52	0.02	0.05	0.09	0.01	0.05	0.09
5500	91.84	95.73	99.36	0.03	0.07	0.11	0.01	0.06	0.10
6000	93.20	91.52	97.37	0.04	0.08	0.12	0.00	0.07	0.11
8250	88.53	88.42	85.21	0.14	0.20	0.24	0.10	0.19	0.23
11000	75.58	74.88	75.22	0.08	0.16	0.20	0.06	0.16	0.20
12000	69.52	69.29	69.54	0.01	0.09	0.14	0.01	0.10	0.14
13000	61.86	61.76	61.77	0.05	0.03	0.09	0.06	0.04	0.10
14500	45.64	45.50	45.34	0.06	0.03	0.09	0.08	0.05	0.12
15000	37.70	37.49	37.29	0.01	0.07	0.14	0.04	0.09	0.16
16000	11.14	10.69	10.17	0.66	0.83	1.00	0.61	0.82	0.99
16450	0.26	0.40	0.48	32.09	29.56	28.90	29.24	27.98	27.28
16500	0.27	0.41	0.48	23.40	23.29	23.94	22.62	22.67	23.24
16550	0.28	0.41	0.48	21.71	22.20	23.36	21.12	21.67	22.76
16600	0.27	0.39	0.47	22.48	23.30	25.07	21.63	22.61	24.13
16700	0.23	0.36	0.44	31.07	33.30	37.72	29.16	31.12	34.79
16800	0.22	0.35	0.44	28.17	27.76	26.28	29.24	28.51	27.24
16900	0.24	0.37	0.45	21.55	22.00	22.04	21.83	22.38	22.46
17000	0.25	0.38	0.46	20.24	21.22	22.00	20.64	21.65	22.74
17100	0.25	0.37	0.45	22.47	24.13	25.82	22.89	25.04	27.71
17200	0.23	0.37	0.45	28.38	29.64	28.55	33.29	43.80	39.39
17300	0.24	0.38	0.47	26.48	25.41	23.86	30.24	27.79	25.54
17400	0.26	0.40	0.50	24.28	25.06	25.24	25.41	25.86	25.50
17450	0.27	0.41	0.51	27.58	30.82	34.06	27.80	29.06	28.87
17735	3.00	3.66	4.30	3.69	3.24	2.81	3.66	3.25	2.85
18200	20.26	20.83	21.40	0.03	0.13	0.20	0.03	0.18	0.25
18575	30.41	30.84	31.27	0.02	0.12	0.21	0.00	0.15	0.24
18750	34.25	34.65	35.03	0.03	0.14	0.22	0.00	0.16	0.25
23000	77.35	78.05	77.10	0.17	0.28	0.35	0.14	0.28	0.36
23200	77.97	79.21	78.45	0.16	0.27	0.34	0.13	0.27	0.35
24000	82.12	81.73	83.08	0.09	0.21	0.28	0.08	0.23	0.30
24500	83.92	84.07	85.60	0.06	0.18	0.26	0.04	0.19	0.26
25000	85.99	86.23	84.91	0.00	0.14	0.21	0.02	0.15	0.22
26000	90.33	90.67	90.36	0.07	0.08	0.16	0.12	0.06	0.14
26500	90.10	87.99	89.50	0.12	0.05	0.11	0.16	0.03	0.10
27000	83.15	92.91	87.99	0.14	0.02	0.10	0.21	0.01	0.07
28000	83.77	89.82	108.02	0.20	0.03	0.05	0.25	0.05	0.04
29000	99.24	84.98	91.76	0.20	0.03	0.06	0.27	0.06	0.04
30000	87.54	90.29	86.32	0.15	0.00	0.13	0.24	0.02	0.12
31000	86.07	98.22	84.09	0.05	0.09	0.25	0.17	0.06	0.24
32000	98.95	93.28	94.68	0.08	0.22	0.38	0.04	0.18	0.37
33000	94.80	88.60	89.13	0.24	0.36	0.52	0.11	0.33	0.50
34000	97.00	92.00	91.94	0.37	0.50	0.63	0.26	0.46	0.61
35000	92.16	89.68	101.40	0.51	0.63	0.77	0.33	0.54	0.67
36000	83.86	89.79	86.06	0.52	0.69	0.81	0.33	0.56	0.69
36500	95.48	108.93	117.05	0.47	0.68	0.78	0.30	0.55	0.67
37000	90.70	89.87	93.90	0.40	0.64	0.73	0.26	0.51	0.62
37500	94.60	82.72	87.42	0.34	0.59	0.67	0.19	0.46	0.55
38000	84.52	86.16	85.70	0.23	0.51	0.55	0.13	0.41	0.47
39000	89.66	97.75	82.39	0.01	0.28	0.28	0.02	0.25	0.29
40000	108.57	90.35	86.18	0.25	0.01	0.01	0.18	0.07	0.09

Typical Performance Data

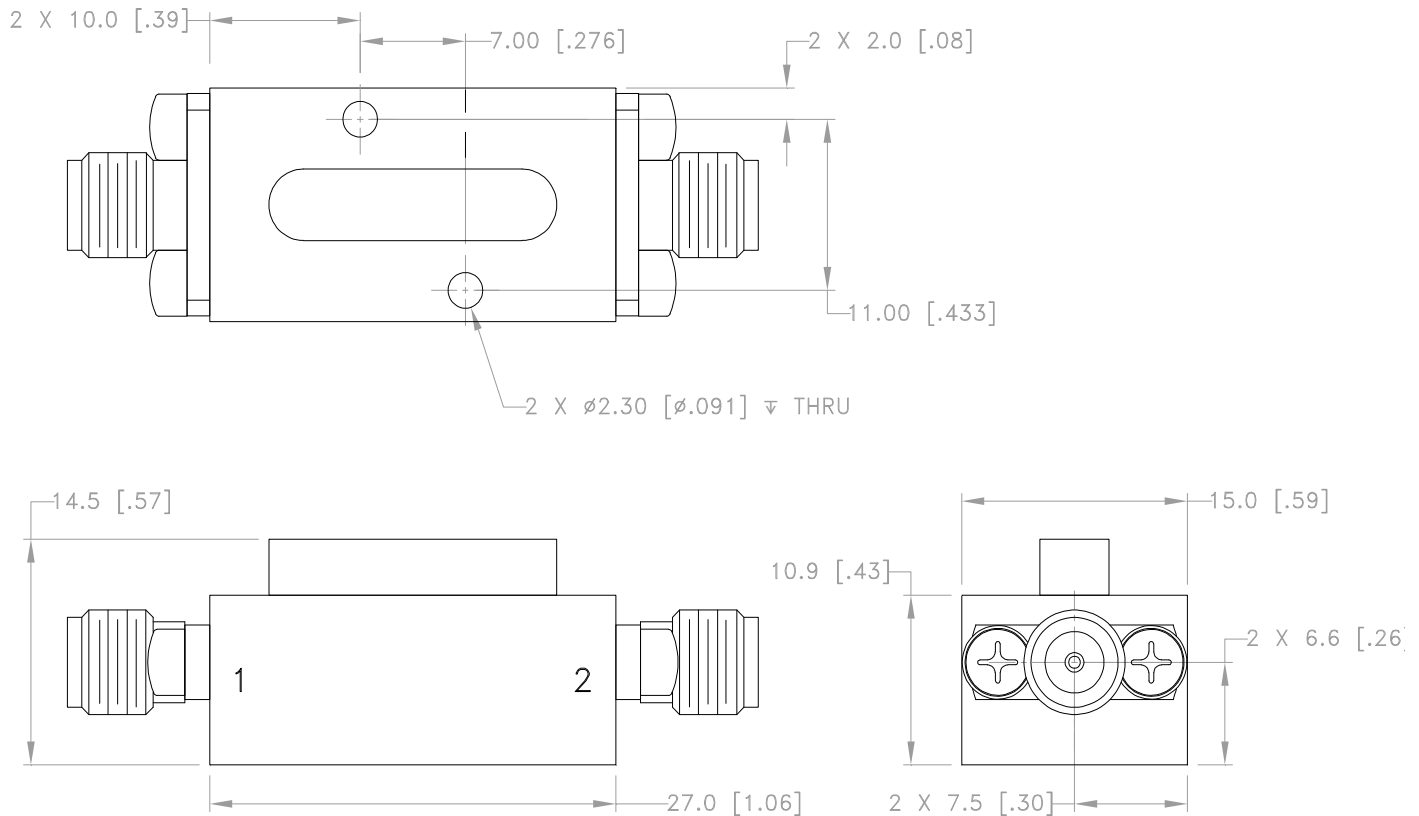
FREQ.	GROUP DELAY		
(MHz)	(nsec)		
	@-40°C	@+25°C	@+85°C
16450	0.90	0.88	0.86
16500	0.84	0.83	0.82
16550	0.80	0.79	0.78
16600	0.77	0.77	0.76
16650	0.76	0.75	0.75
16700	0.74	0.74	0.74
16750	0.73	0.73	0.73
16800	0.72	0.72	0.72
16850	0.72	0.71	0.71
16900	0.71	0.71	0.71
16950	0.71	0.71	0.71
17000	0.71	0.71	0.71
17110	0.72	0.72	0.72
17120	0.72	0.72	0.72
17130	0.72	0.72	0.73
17140	0.72	0.72	0.73
17150	0.72	0.73	0.73
17160	0.73	0.73	0.73
17170	0.73	0.73	0.73
17180	0.73	0.73	0.74
17190	0.73	0.73	0.74
17200	0.73	0.74	0.74
17210	0.74	0.74	0.74
17220	0.74	0.74	0.75
17230	0.74	0.74	0.75
17240	0.74	0.75	0.75
17250	0.75	0.75	0.76
17260	0.75	0.75	0.76
17280	0.76	0.76	0.77
17300	0.76	0.77	0.77
17310	0.77	0.77	0.78
17330	0.77	0.78	0.79
17350	0.78	0.79	0.80
17370	0.79	0.80	0.81
17380	0.80	0.81	0.82
17390	0.80	0.81	0.83
17400	0.81	0.82	0.83
17410	0.82	0.83	0.84
17420	0.82	0.84	0.85
17430	0.83	0.85	0.86
17450	0.85	0.87	0.89

Typical Performance Curves



Outline Dimensions

BAY3707



Dimensions are in mm (inches). Tolerances: 1 Pl. ± 1.5 (0.06); 2 Pl. ± 0.38 (0.015)

Notes:

1. Case material: Brass alloy.
2. Case Finish: Powder coated.
3. Unit Weight: 40 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	-30° to 70°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-30° to 70° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C