CAVITY COAXIAL

Bandpass Filter

ZVBP-1200-S+

50Ω 1150 to 1250 MHz SMA Female

KEY FEATURES

- Low Insertion Loss, 0.6 dB Typ.
- Good Return Loss, 20 dB Typ.
- High Rejection, 100 dB Typ.
- Wide Stopband up to 2800 MHz
- Power Handling 50 Watts

Generic photo used for illustration purposes only

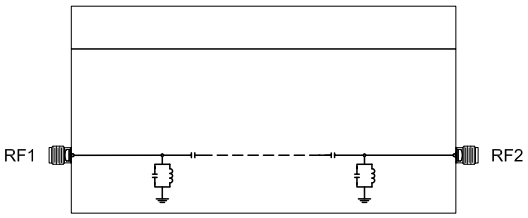
APPLICATIONS

- GPS
- Navigation Systems

PRODUCT OVERVIEW

Mini-Circuits' ZVBP-1200-S+ 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 SPECIFICATIONS[1] AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	1200	—	MHz
	Insertion Loss	F1-F2	1150 - 1250	—	0.6	1.1	dB
	Return Loss	F1-F2	1150 - 1250	15	20	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 900	70	100	—	dB
		F3-F4	900 - 1095	50	58	—	
Stop Band, Upper	Rejection	F5-F6	1305 - 1500	60	68	—	dB
		F6-F7	1500 - 2800	70	100	—	

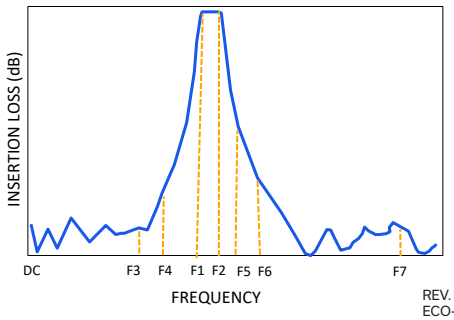
1. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.

ABSOLUTE MAXIMUM RATINGS[2,3]

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power[4]	50W 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



REV. OR
ECO-014067
ZVBP-1200-S+
EDU4801
URJ
240524

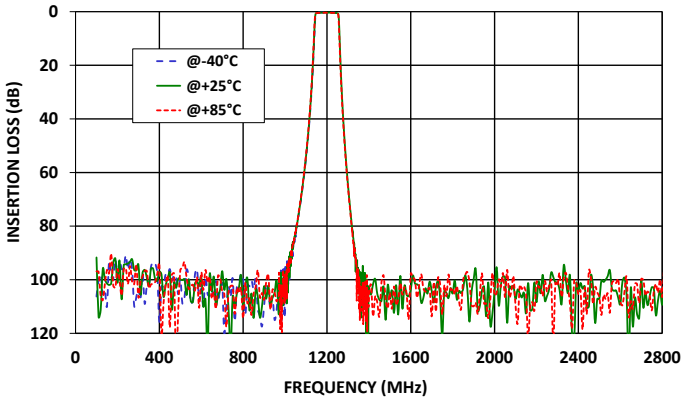
Bandpass Filter

ZVBP-1200-S+

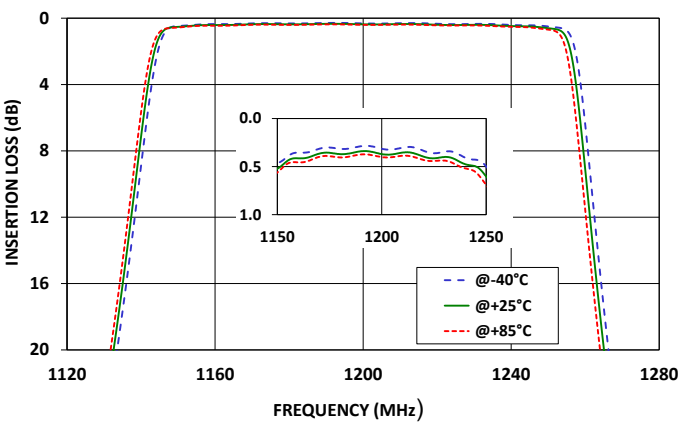
50Ω 1150 to 1250 MHz SMA Female

TYPICAL PERFORMANCE GRAPHS

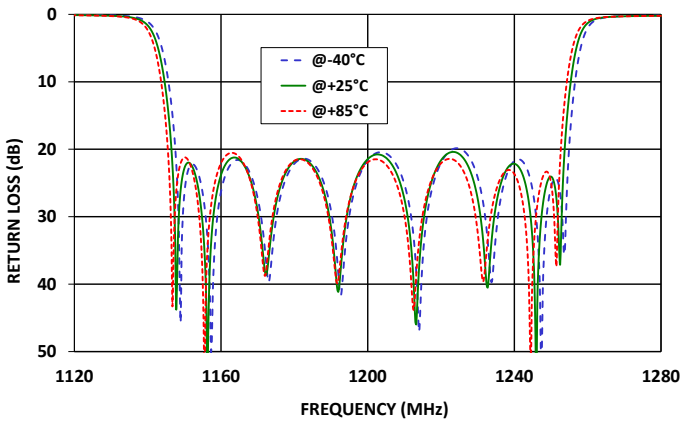
ZVBP-1200-S+
INSERTION LOSS



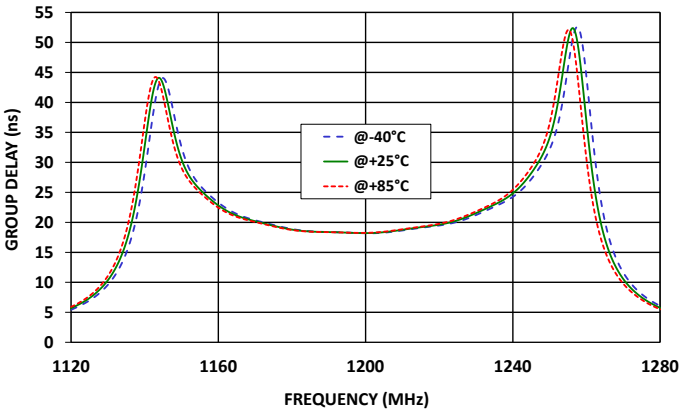
ZVBP-1200-S+
INSERTION LOSS (Zoomed)



ZVBP-1200-S+
RETURN LOSS



ZVBP-1200-S+
GROUP DELAY



CAVITY COAXIAL

Bandpass Filter

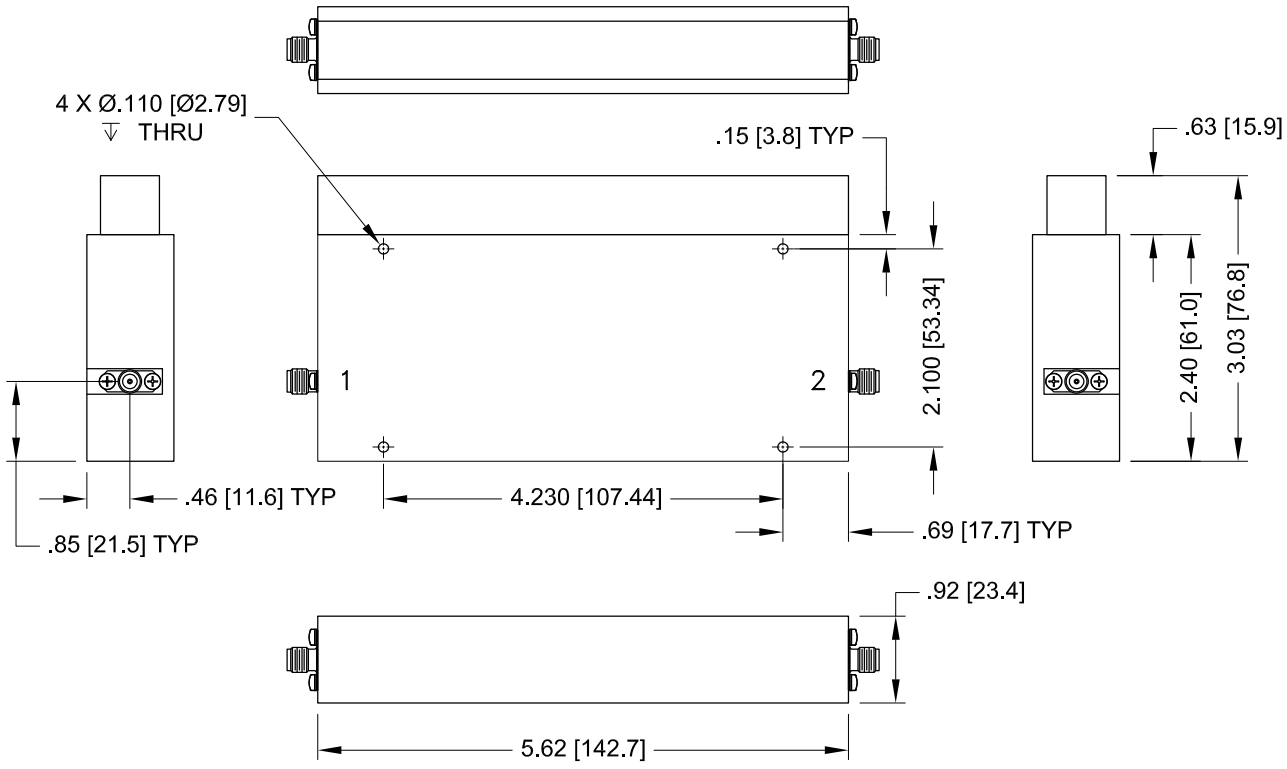
ZVBP-1200-S+

50Ω 1150 to 1250 MHz SMA Female

CONNECTOR DESCRIPTION

Function	Marking on Unit	Connector
RF1[1]	1	SMA Female
RF2[1]	2	SMA Female

CASE STYLE DRAWING



Unit Weight: 330 Grams.
Dimensions are in inches [mm]. Tolerances: 2 Pl. ± .100; 3 Pl. ± .015

PRODUCT MARKING*: ZVBP-1200-S+

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

CAVITY COAXIAL

Bandpass Filter

ZVBP-1200-S+

50Ω 1150 to 1250 MHz SMA 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	AAH3615
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

Cavity Band Pass Filter ZVBP-1200-S+

Typical Performance Data

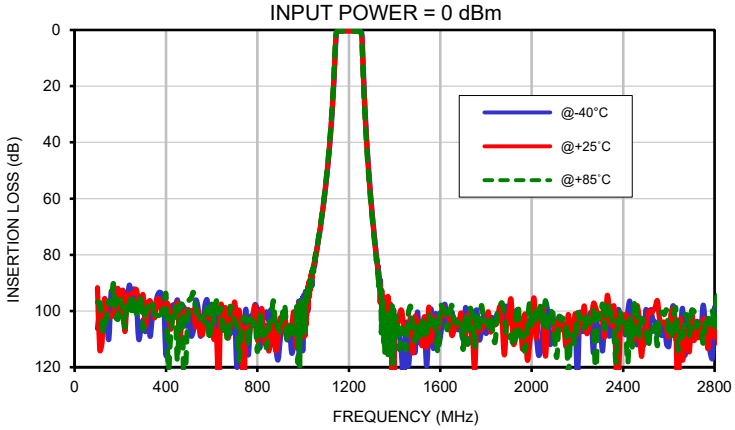
FREQ. (MHz)	INSERTION LOSS (dB)			INPUT RETURN LOSS (dB)			OUTPUT RETURN LOSS (dB)		
	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C
100	106.25	91.70	96.91	0.03	0.04	0.04	0.03	0.03	0.04
120	98.10	111.27	106.13	0.04	0.04	0.05	0.03	0.04	0.04
140	103.89	99.86	101.54	0.04	0.05	0.05	0.04	0.04	0.05
160	93.15	101.94	97.62	0.05	0.05	0.06	0.04	0.05	0.05
180	99.77	93.56	102.21	0.05	0.05	0.06	0.04	0.05	0.05
200	99.06	101.14	96.06	0.05	0.06	0.06	0.05	0.05	0.06
220	96.00	107.32	105.80	0.06	0.06	0.07	0.05	0.06	0.06
240	90.74	94.23	95.67	0.06	0.06	0.07	0.05	0.06	0.06
260	92.11	93.36	94.92	0.06	0.07	0.07	0.05	0.06	0.06
280	109.81	96.35	101.59	0.06	0.07	0.07	0.06	0.06	0.07
300	103.19	94.35	106.59	0.06	0.07	0.07	0.06	0.07	0.07
320	97.65	97.31	98.76	0.06	0.07	0.07	0.06	0.07	0.07
340	102.47	99.19	96.78	0.06	0.07	0.08	0.06	0.07	0.07
360	95.21	95.89	101.77	0.06	0.07	0.08	0.05	0.07	0.07
380	93.84	99.80	100.87	0.06	0.07	0.08	0.05	0.07	0.07
400	115.93	96.92	94.10	0.06	0.07	0.08	0.05	0.07	0.07
500	99.61	99.86	96.34	0.06	0.08	0.08	0.05	0.07	0.07
800	99.83	110.44	114.42	0.04	0.06	0.07	0.03	0.06	0.07
900	109.75	102.39	107.43	0.03	0.06	0.07	0.02	0.05	0.06
1095	58.27	57.64	57.12	0.02	0.06	0.08	0.02	0.06	0.08
1100	54.66	54.03	53.38	0.03	0.07	0.08	0.02	0.06	0.08
1126	30.32	29.16	28.14	0.10	0.15	0.18	0.09	0.15	0.18
1133	20.81	19.34	18.03	0.21	0.30	0.36	0.20	0.29	0.36
1144	3.13	2.09	1.45	4.30	6.55	9.41	4.22	6.48	9.33
1150	0.47	0.52	0.56	26.60	22.83	21.22	26.60	22.81	21.17
1200	0.31	0.37	0.40	21.63	21.46	21.94	21.57	21.46	21.97
1250	0.50	0.60	0.69	25.62	24.06	24.97	25.81	24.10	24.82
1280	41.59	43.14	44.40	0.17	0.20	0.22	0.15	0.19	0.21
1305	67.78	68.84	69.74	0.10	0.14	0.15	0.09	0.13	0.14
1320	79.59	80.66	82.11	0.08	0.12	0.13	0.07	0.11	0.13
1340	95.33	95.67	94.12	0.07	0.10	0.12	0.05	0.09	0.11
1360	104.72	97.14	105.30	0.06	0.09	0.11	0.04	0.08	0.10
1400	106.19	103.05	105.72	0.04	0.08	0.09	0.03	0.07	0.09
1420	108.41	101.65	113.64	0.04	0.08	0.09	0.02	0.07	0.08
1440	126.66	105.21	108.42	0.03	0.07	0.09	0.02	0.06	0.08
1450	104.00	107.43	113.74	0.03	0.07	0.09	0.02	0.06	0.08
1500	100.33	107.09	104.86	0.02	0.06	0.08	0.01	0.05	0.07
1510	111.14	104.02	110.83	0.02	0.06	0.08	0.01	0.05	0.07
1520	106.81	112.38	102.52	0.02	0.06	0.08	0.01	0.05	0.07
1530	104.17	102.02	109.42	0.02	0.06	0.08	0.01	0.05	0.07
1540	119.54	112.99	107.32	0.02	0.06	0.08	0.01	0.05	0.07
1550	106.06	98.58	101.31	0.02	0.06	0.08	0.00	0.05	0.07
1560	99.39	110.83	105.56	0.01	0.06	0.07	0.00	0.05	0.07
1570	113.37	102.16	102.76	0.01	0.06	0.08	0.00	0.05	0.07
1580	100.87	105.59	105.15	0.01	0.06	0.07	0.00	0.05	0.07
1590	111.88	106.13	114.72	0.01	0.06	0.07	0.00	0.05	0.07
1600	109.39	103.59	97.71	0.01	0.06	0.07	0.00	0.05	0.07
1650	100.29	108.58	97.97	0.01	0.05	0.07	0.00	0.04	0.07
1700	110.16	104.19	113.68	0.00	0.05	0.07	0.01	0.04	0.07
1750	100.72	120.99	112.97	0.00	0.05	0.07	0.01	0.04	0.07
1800	107.98	105.11	103.09	0.00	0.05	0.07	0.01	0.04	0.07
1850	100.84	103.42	100.07	0.01	0.05	0.07	0.02	0.04	0.07
1900	104.13	99.92	109.92	0.01	0.05	0.07	0.02	0.04	0.07
1950	106.37	102.61	108.92	0.01	0.05	0.07	0.02	0.04	0.07
2000	107.64	104.08	105.79	0.01	0.05	0.07	0.02	0.04	0.07
2200	123.26	108.39	100.81	0.01	0.05	0.07	0.02	0.04	0.08
2400	103.82	104.48	105.46	0.01	0.05	0.08	0.01	0.05	0.09
2600	112.61	109.12	108.24	0.01	0.06	0.09	0.01	0.06	0.10
2700	107.79	100.02	99.73	0.00	0.07	0.10	0.00	0.07	0.11
2800	98.85	109.35	106.41	0.01	0.07	0.10	0.00	0.07	0.11

Typical Performance Data

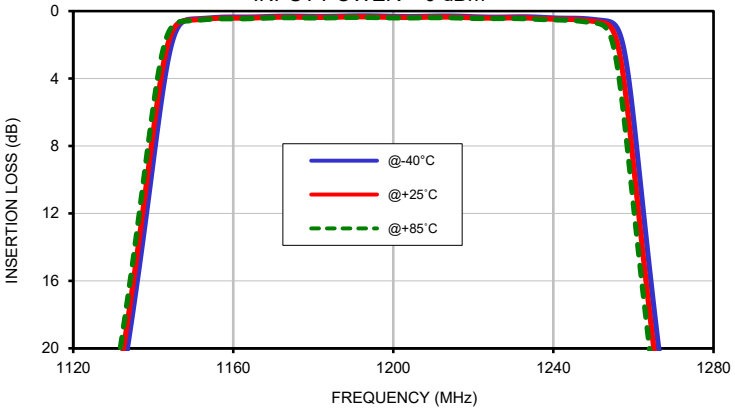
FREQ. (MHz)	GROUP DELAY (nsec)		
	@-40°C	@+25°C	@+85°C
1150.0	32.57	30.52	29.11
1151.0	30.60	29.01	27.93
1153.0	27.89	26.92	26.23
1155.0	26.17	25.48	24.96
1157.0	24.89	24.32	23.86
1159.0	23.79	23.29	22.88
1160.0	23.30	22.83	22.45
1161.0	22.84	22.41	22.06
1163.0	22.04	21.69	21.41
1165.0	21.40	21.13	20.91
1167.0	20.91	20.70	20.53
1169.0	20.52	20.35	20.21
1170.0	20.35	20.19	20.06
1171.0	20.19	20.03	19.91
1173.0	19.87	19.73	19.61
1175.0	19.57	19.43	19.32
1177.0	19.27	19.15	19.06
1179.0	19.00	18.90	18.82
1180.0	18.89	18.79	18.73
1181.0	18.78	18.70	18.64
1183.0	18.62	18.56	18.52
1185.0	18.51	18.47	18.44
1187.0	18.44	18.42	18.40
1189.0	18.40	18.39	18.38
1190.0	18.39	18.38	18.36
1191.0	18.37	18.36	18.35
1193.0	18.33	18.33	18.32
1195.0	18.29	18.28	18.28
1197.0	18.24	18.24	18.25
1199.0	18.20	18.21	18.24
1200.0	18.19	18.21	18.25
1205.0	18.28	18.36	18.44
1210.0	18.65	18.76	18.84
1215.0	19.09	19.19	19.28
1220.0	19.48	19.61	19.76
1225.0	20.10	20.34	20.59
1230.0	21.22	21.54	21.82
1235.0	22.60	22.95	23.28
1240.0	24.25	24.83	25.44
1245.0	27.20	28.20	29.16
1250.0	32.17	34.12	36.50

Typical Performance Curves

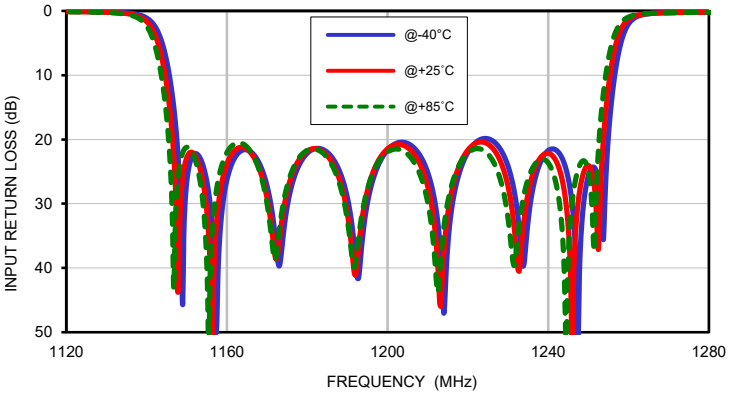
INSERTION LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



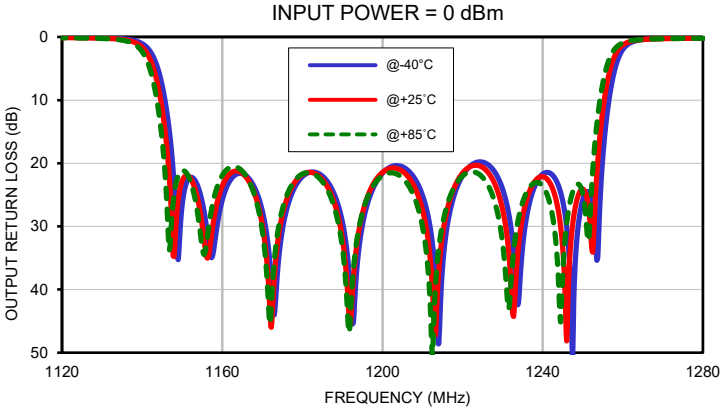
INSERTION LOSS vs. TEMPERATURE (Zoomed)
INPUT POWER = 0 dBm



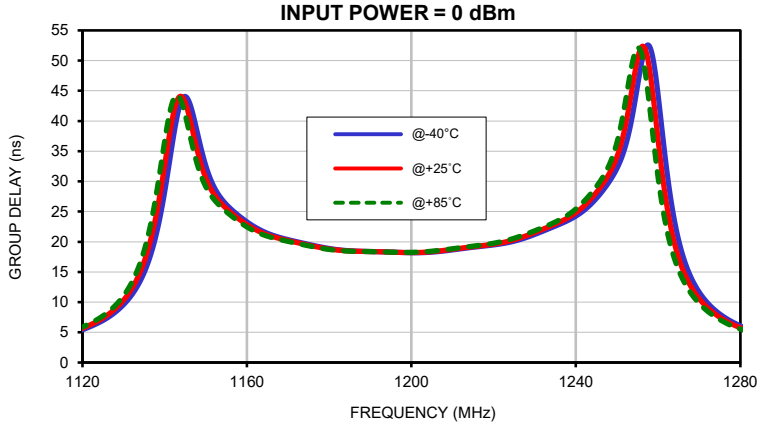
INPUT RETURN LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



OUTPUT RETURN LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



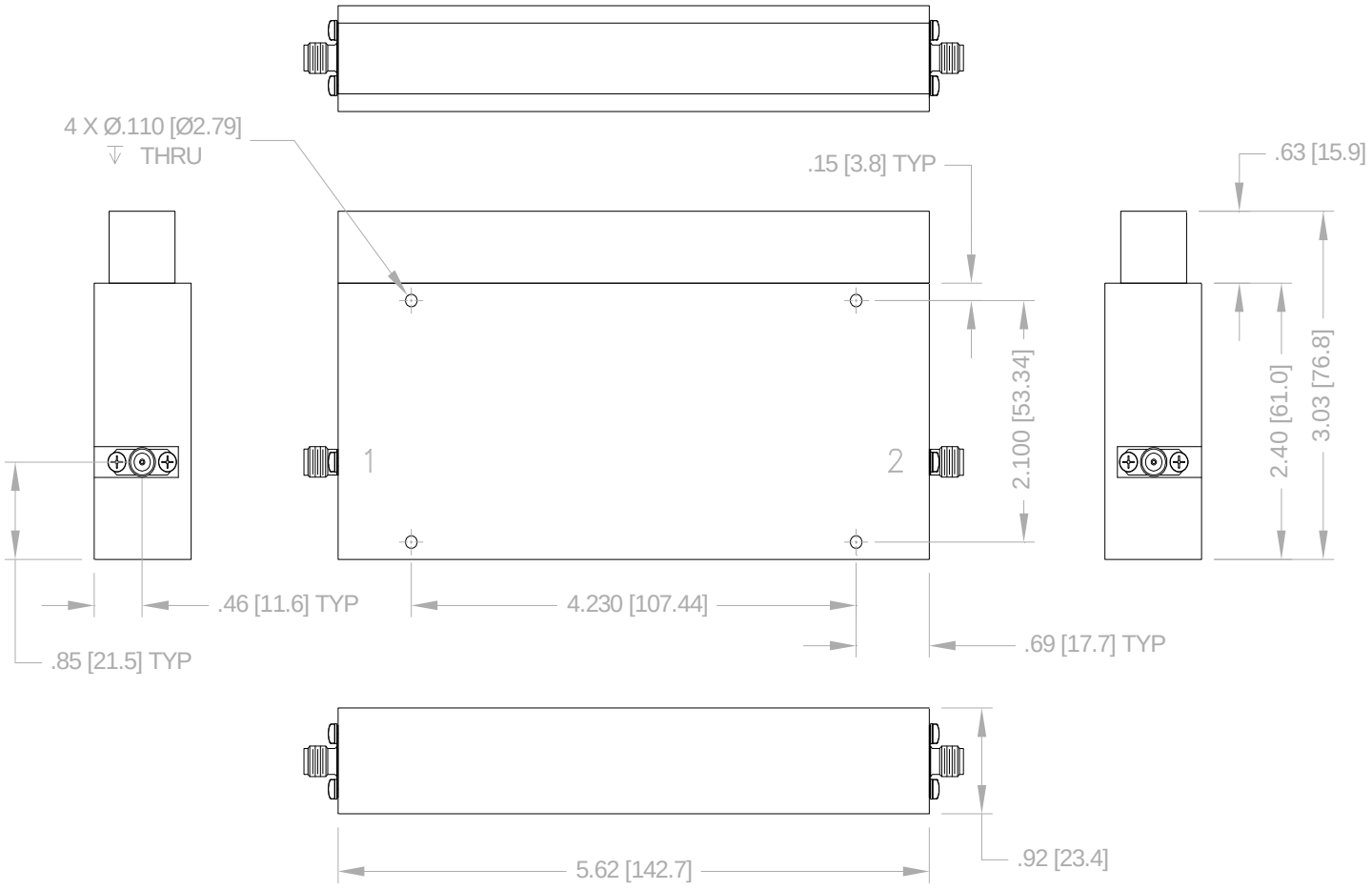
GROUP DELAY vs. TEMPERATURE
INPUT POWER = 0 dBm



Case Style AAH

Outline Dimensions

AAH3615



Dimensions are in inches [mm]. Tolerances: 2 Pl. ± .100; 3 Pl. ± .015

Notes:

1. Case material: Aluminum.
2. Case Finish: Powder coated.
3. Unit Weight:330 grams.
4. Refer to the individual model data sheet for the type of connectors available.

Mini-Circuits

Environmental Specifications ENV77T1

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