

Coaxial

Low Pass Filter

ZX75LP-1050-S+

50Ω

50 to 1050 MHz

The Big Deal

- Excellent passband flatness, 0.4 dB typ.
- Fast roll-off, high rejection
- Good VSWR
- Connectorized package



CASE STYLE: HY1238

Product Overview

ZX75LP-1050-S+ is a 50Ω low pass filter built in connectorized package which is easy to interface with other devices and well suited for test setups. Covering 50-1050 MHz bandwidth, this filter is designed to have an excellent flatness in the passband to ensure amplitude variation is low. Apart from the high rejection in stopband, these units offer good return loss which makes signal transmission with less reflection and well-matched with the adjacent component used in the setup.

Key Features

Feature	Advantages
Excellent passband flatness	Flat passband ensures low amplitude variation
Fast roll-off	Provides very good adjacent band rejection
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test setups
Good VSWR	Provides good interface when used with other devices.

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-Circuit's 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/MCLStore/terms.jsp



Low Pass Filter

50Ω 50 to 1050 MHz

ZX75LP-1050-S+



CASE STYLE: HY1238

Connectors Model
SMA-M/F ZX75LP-1050-S+

Features

- Excellent passband flatness, 0.4 dB typ.
- Fast roll-off, High rejection
- Good VSWR
- Connectorized package

Applications

- Satellite
- Mobile satellite
- Receivers / Transmitters
- Amplitude sensitive measurements & applications

Electrical Specifications at 25°C

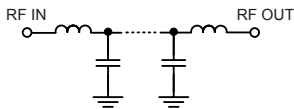
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	F1-F2	50-1050	—	1.7	2.2 dB
	Flatness	F1-F2	50-1050	—	0.4	0.7 dB
	VSWR	F1-F2	50-1050	—	1.3	1.8 :1
Stop Band	Insertion Loss	F3-F4	1200-2500	43	50	— dB

Maximum Ratings

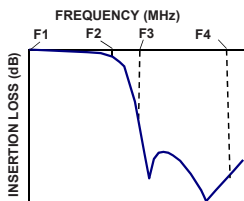
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	1W max.

Permanent damage may occur if one or combination of these limits are exceeded.

Functional Schematic



Typical Frequency Response

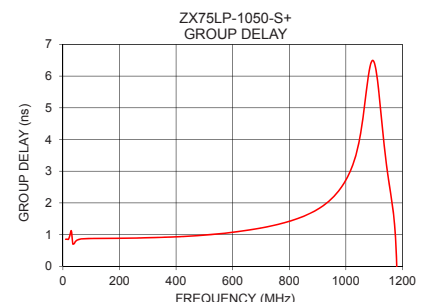
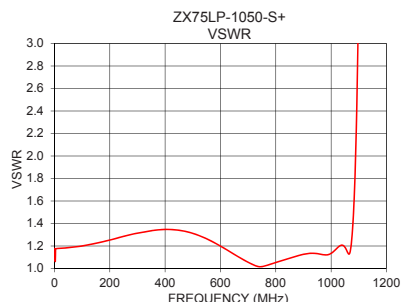
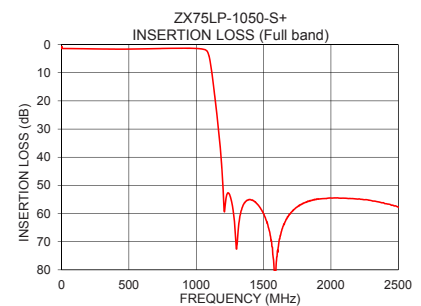
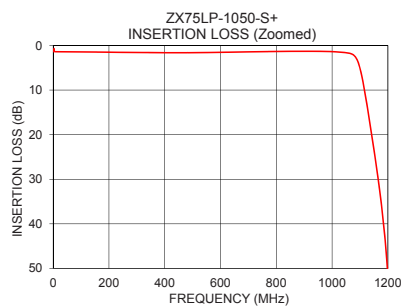


Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
10	1.39	1.18	50	0.83
50	1.41	1.18	100	0.88
100	1.44	1.20	150	0.88
500	1.61	1.31	200	0.88
1000	1.38	1.13	250	0.89
1050	1.62	1.19	300	0.90
1090	3.26	2.13	350	0.91
1122	12.19	10.59	400	0.93
1142	20.07	19.15	450	0.95
1166	30.40	27.52	500	0.98
1200	51.90	36.21	550	1.02
1300	72.59	54.14	600	1.07
1400	55.05	67.46	700	1.21
1500	60.07	77.15	800	1.42
1600	75.30	86.72	850	1.58
1700	60.03	95.65	900	1.80
1800	56.27	102.86	950	2.13
2000	54.50	116.85	1000	2.72
2250	55.08	123.60	1030	3.34
2500	57.73	127.44	1050	4.08

+RoHS Compliant

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



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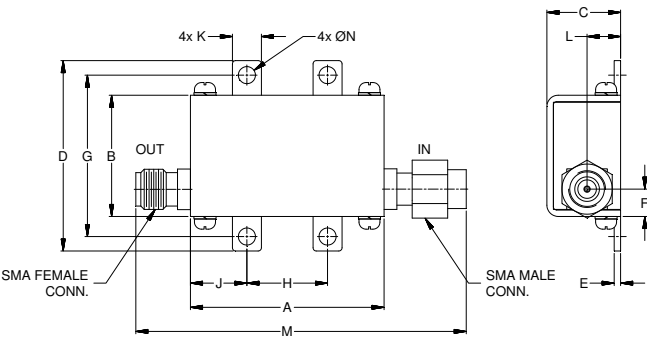
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Coaxial Connections

INPUT	SMA-Male
OUTPUT	SMA-Female

Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G
1.20	.75	.46	1.18	.04	.17	1.00
30.48	19.05	11.68	29.97	1.02	4.32	25.40
H	J	K	L	M	N	Wt.
.50	.35	.18	.21	2.05	.106	grams
12.70	8.89	4.57	5.28	52.07	2.69	35.0

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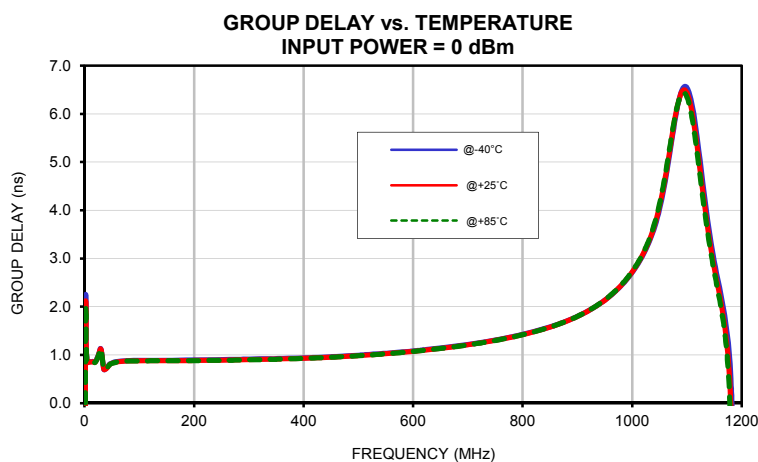
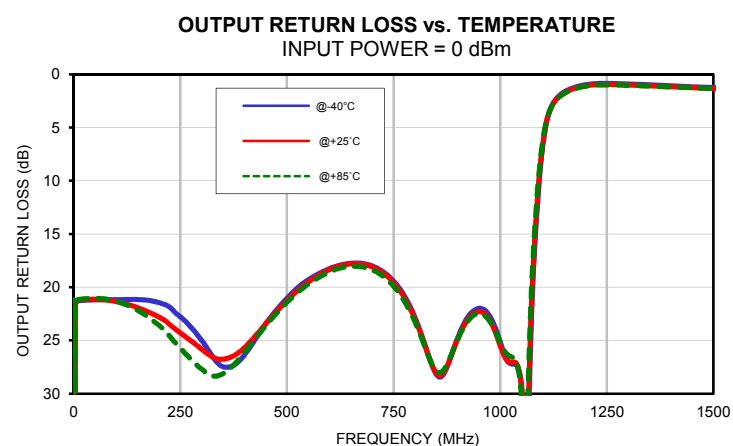
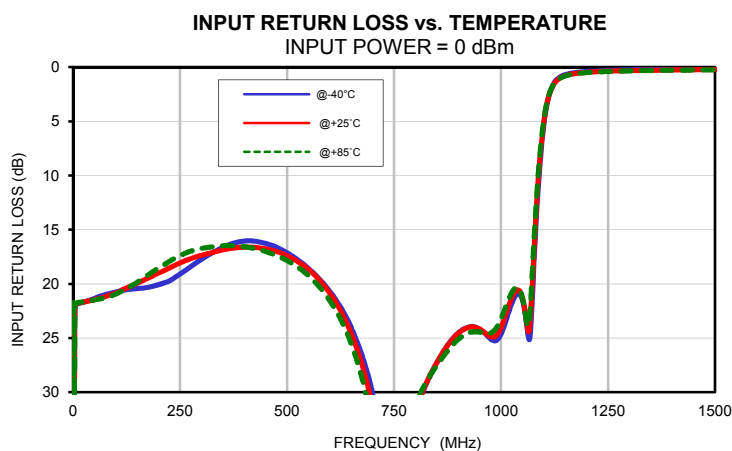
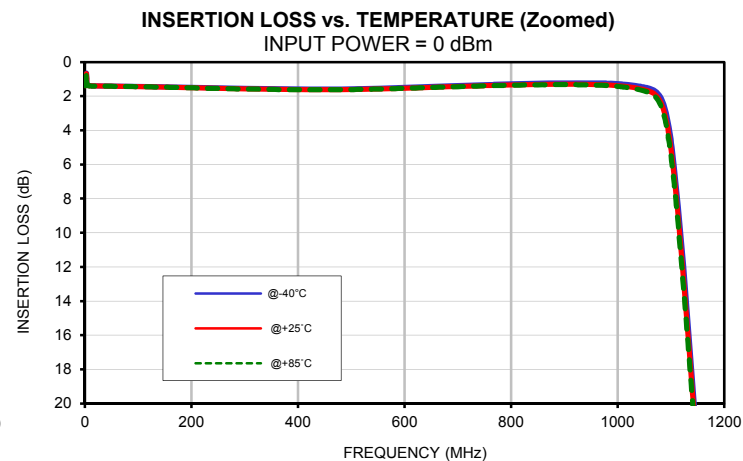
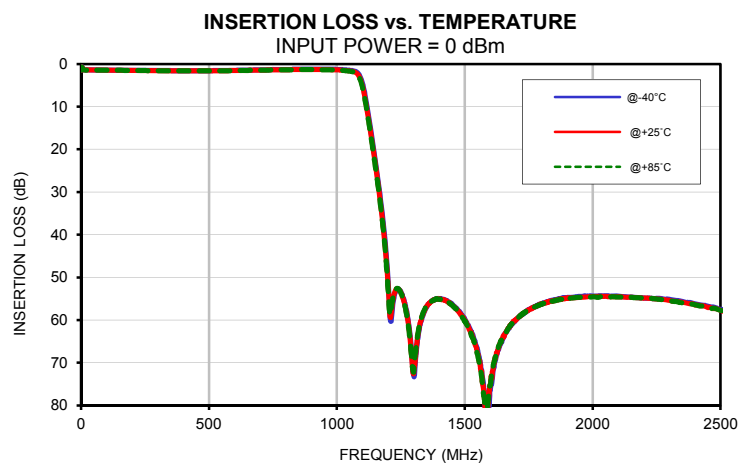
Typical Performance Data

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
1	1.38	1.38	1.39	21.79	21.76	21.73	21.23	21.22	21.19
10	1.38	1.39	1.40	21.83	21.78	21.74	21.28	21.21	21.17
20	1.39	1.40	1.41	21.74	21.71	21.67	21.24	21.16	21.11
40	1.40	1.41	1.41	21.49	21.56	21.55	21.20	21.13	21.05
50	1.41	1.41	1.42	21.34	21.46	21.48	21.18	21.13	21.04
75	1.42	1.43	1.43	21.00	21.18	21.28	21.17	21.19	21.11
100	1.43	1.44	1.44	20.74	20.82	20.93	21.18	21.35	21.33
200	1.48	1.50	1.51	20.07	19.00	18.53	21.43	22.81	23.58
300	1.53	1.57	1.58	17.74	17.35	16.72	24.99	25.81	27.70
400	1.58	1.61	1.62	16.05	16.61	16.57	26.39	25.70	26.16
500	1.56	1.61	1.61	17.13	17.40	17.84	21.05	21.26	21.42
600	1.48	1.53	1.54	20.71	20.88	21.55	18.26	18.35	18.56
700	1.37	1.43	1.44	30.13	31.43	33.45	18.01	18.09	18.37
800	1.27	1.34	1.36	31.96	31.79	31.15	22.83	22.97	23.24
900	1.22	1.30	1.32	24.52	24.56	25.12	24.78	24.91	24.93
1000	1.26	1.38	1.42	24.63	24.04	23.21	25.14	25.48	25.19
1050	1.46	1.62	1.69	21.47	21.27	21.30	29.21	29.52	30.51
1080	2.02	2.31	2.49	15.65	14.72	13.83	16.84	16.00	15.11
1092	3.09	3.55	3.85	8.40	7.93	7.50	9.71	9.28	8.85
1120	10.67	11.44	11.91	1.74	1.79	1.79	3.02	3.07	3.08
1146	20.93	21.71	22.16	0.75	0.84	0.87	1.77	1.87	1.91
1160	26.86	27.68	28.15	0.59	0.68	0.71	1.46	1.56	1.60
1166	29.56	30.40	30.89	0.55	0.63	0.66	1.35	1.45	1.50
1170	31.42	32.30	32.80	0.52	0.61	0.64	1.29	1.39	1.44
1180	36.49	37.45	38.03	0.47	0.55	0.58	1.16	1.26	1.31
1190	42.47	43.60	44.34	0.43	0.51	0.54	1.06	1.16	1.20
1200	50.39	51.90	52.81	0.40	0.48	0.51	0.99	1.09	1.13
1250	53.41	53.54	53.59	0.30	0.37	0.40	0.86	0.96	1.00
1300	72.47	72.59	72.20	0.25	0.32	0.34	0.91	1.01	1.04
1350	57.07	56.89	56.86	0.21	0.28	0.31	0.99	1.09	1.11
1400	55.01	55.05	55.15	0.18	0.26	0.28	1.09	1.17	1.19
1450	56.31	56.48	56.51	0.16	0.24	0.27	1.17	1.26	1.27
1500	59.84	60.07	60.20	0.14	0.23	0.25	1.25	1.34	1.35
1550	67.10	67.93	68.09	0.12	0.21	0.24	1.34	1.44	1.44
1600	76.39	75.30	75.24	0.11	0.20	0.23	1.47	1.52	1.51
1650	64.19	63.75	63.94	0.10	0.19	0.22	1.53	1.55	1.54
1700	59.88	60.03	59.84	0.09	0.18	0.22	1.52	1.58	1.58
1750	57.64	57.66	57.64	0.07	0.17	0.21	1.54	1.61	1.61
1800	56.23	56.27	56.31	0.07	0.17	0.20	1.57	1.65	1.66
1850	55.31	55.51	55.49	0.06	0.16	0.20	1.60	1.69	1.70
1900	54.76	54.83	54.88	0.06	0.16	0.20	1.61	1.71	1.72
1950	54.45	54.69	54.69	0.05	0.15	0.19	1.54	1.64	1.66
2000	54.36	54.50	54.56	0.05	0.15	0.19	1.31	1.42	1.43
2050	54.32	54.43	54.54	0.04	0.15	0.19	0.91	1.05	1.08
2100	54.36	54.56	54.63	0.04	0.14	0.19	0.66	0.87	0.88
2150	54.62	54.69	54.67	0.04	0.14	0.18	0.79	0.94	0.88
2200	54.86	54.88	54.87	0.03	0.14	0.18	1.08	0.96	0.89
2250	54.92	55.08	55.07	0.04	0.14	0.18	1.08	0.92	0.88
2300	55.16	55.38	55.47	0.03	0.14	0.18	0.94	0.90	0.90
2320	55.38	55.58	55.64	0.04	0.14	0.18	0.90	0.90	0.90
2340	55.47	55.76	55.90	0.03	0.14	0.18	0.88	0.91	0.91
2360	55.78	55.93	55.97	0.03	0.14	0.18	0.87	0.91	0.93
2380	55.88	56.20	56.16	0.03	0.14	0.18	0.86	0.92	0.94
2400	56.22	56.47	56.42	0.03	0.14	0.18	0.86	0.93	0.95
2420	56.47	56.62	56.72	0.03	0.14	0.18	0.86	0.94	0.96
2440	56.57	56.79	56.90	0.03	0.14	0.18	0.86	0.95	0.98
2460	56.93	57.03	57.25	0.03	0.14	0.18	0.87	0.96	0.99
2480	57.10	57.27	57.30	0.04	0.14	0.18	0.87	0.97	1.00
2490	57.35	57.51	57.53	0.03	0.14	0.18	0.87	0.97	1.01
2500	57.47	57.73	57.75	0.03	0.14	0.18	0.87	0.98	1.02

Typical Performance Data

FREQ.	GROUP DELAY		
(MHz)	(ns)		
	@-40°C	@+25°C	@+85°C
50	0.83	0.83	0.82
55	0.85	0.84	0.84
60	0.86	0.86	0.85
65	0.87	0.86	0.86
70	0.88	0.87	0.87
80	0.88	0.88	0.87
100	0.88	0.88	0.88
120	0.89	0.88	0.88
140	0.89	0.88	0.88
160	0.89	0.88	0.88
180	0.89	0.88	0.88
200	0.89	0.88	0.88
220	0.90	0.89	0.88
240	0.90	0.89	0.89
260	0.90	0.89	0.89
280	0.91	0.90	0.89
300	0.91	0.90	0.90
320	0.92	0.91	0.90
340	0.92	0.91	0.91
360	0.93	0.92	0.91
380	0.93	0.92	0.92
400	0.94	0.93	0.93
420	0.95	0.94	0.94
440	0.96	0.95	0.95
460	0.97	0.96	0.96
480	0.98	0.97	0.97
500	0.99	0.98	0.98
520	1.01	1.00	1.00
540	1.02	1.01	1.01
560	1.04	1.03	1.03
580	1.06	1.05	1.05
600	1.08	1.07	1.07
620	1.10	1.10	1.10
640	1.13	1.12	1.12
660	1.16	1.15	1.15
680	1.18	1.18	1.17
700	1.22	1.21	1.21
720	1.25	1.24	1.24
740	1.29	1.28	1.28
760	1.33	1.32	1.32
780	1.37	1.37	1.37
800	1.43	1.42	1.42
820	1.48	1.48	1.48
840	1.55	1.54	1.54
860	1.62	1.61	1.61
880	1.70	1.70	1.70
900	1.80	1.80	1.80
920	1.91	1.91	1.92
940	2.05	2.05	2.06
950	2.13	2.13	2.14
960	2.22	2.22	2.23
970	2.32	2.33	2.33
980	2.44	2.44	2.45
990	2.56	2.57	2.58
1000	2.71	2.72	2.73
1010	2.87	2.89	2.90
1020	3.07	3.09	3.11
1030	3.31	3.34	3.36
1050	4.02	4.08	4.13

Typical Performance Curves

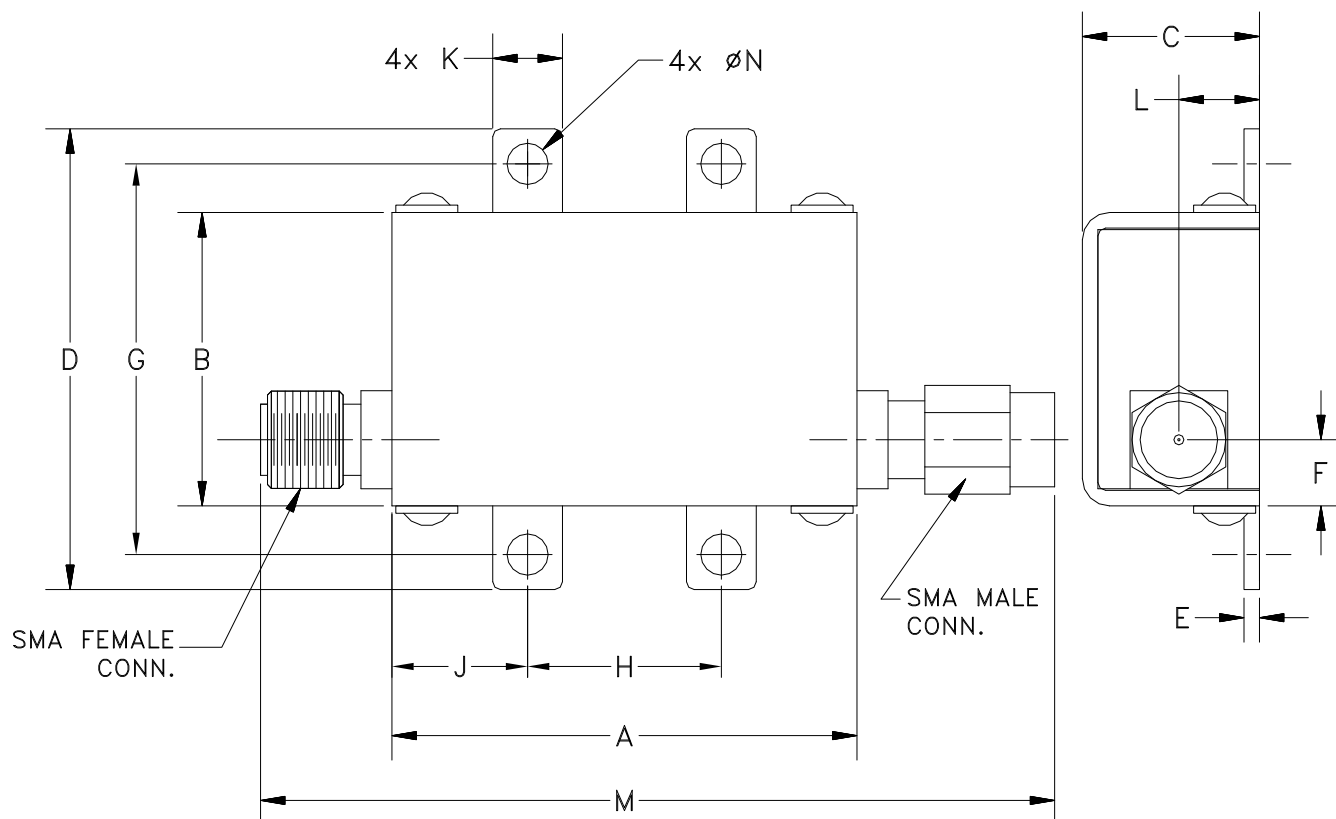


Case Style

HY

Outline Dimensions

HY1238



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N	WT GRAMS
HY1238	1.20 (30.48)	.75 (19.05)	.46 (11.68)	1.18 (29.97)	.04 (1.02)	.17 (4.32)	1.00 (25.40)	.50 (12.70)	.35 (8.89)	.18 (4.57)	.21 (5.28)	2.05 (52.07)	.106 (2.69)	35.0

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$
Tolerance on hole size and interaxes dimensions to be $\pm .005$.

Note:

1. Case material: Brass
2. Case finish: Nickel plate



INTERNET <http://www.minicircuits.com>

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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 85°C	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