Engineering Development Model

Low Pass Filter LPF-EDU1017

Surface Mount

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

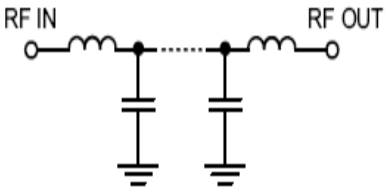
Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : HZ1198

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C

Parameter	Min.	Typ.	Max.	Units
Passband (Loss < 1.2 dB)	DC		0.6	MHz
Insertion loss 3dB		0.820		MHz
Stopband (Loss > 20 dB)	0.995		1.12	MHz
(Loss > 40 dB)	1.12		1400	MHz
Passband VSWR		1.2	1.5	(:1)
Stopband VSWR		20		(:1)

Functional Schematic



MAXIMUM RATINGS

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

PIN CONNECTIONS

Input	1
Output	2
Not Connected	-
Case Ground	3,4,5,6

Low Pass Filter LPF-EDU1017

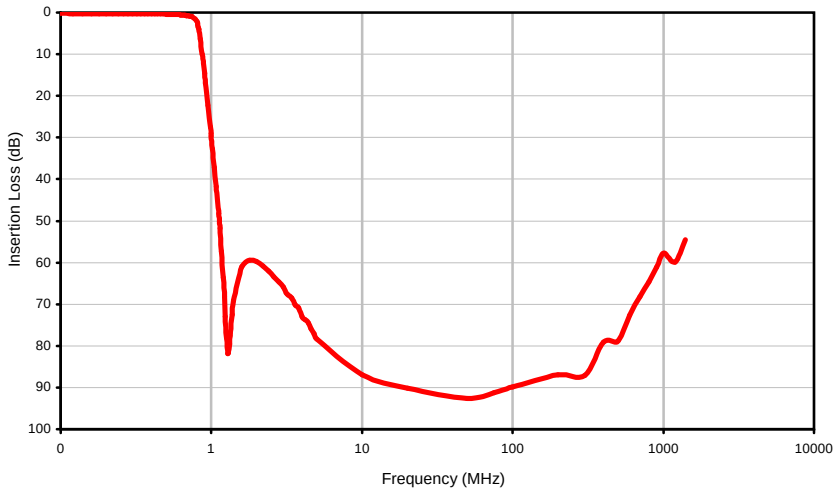
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
0.03	0.21	29.54
0.50	0.39	26.28
0.60	0.51	34.52
0.70	0.79	19.40
0.78	1.47	13.88
0.80	2.20	8.64
0.82	3.59	5.09
0.85	6.37	2.60
0.89	12.21	1.11
0.95	22.23	0.55
1.00	28.98	0.43
1.12	48.29	0.31
5.00	78.39	0.17
10.00	86.98	0.18
20.00	90.18	0.16
50.00	92.57	0.11
75.00	91.20	0.12
100.00	89.85	0.11
300.00	87.06	0.14
500.00	78.79	0.45
800.00	64.68	0.30
1000.00	57.74	0.56
1200.00	59.87	1.65
1400.00	54.53	0.72

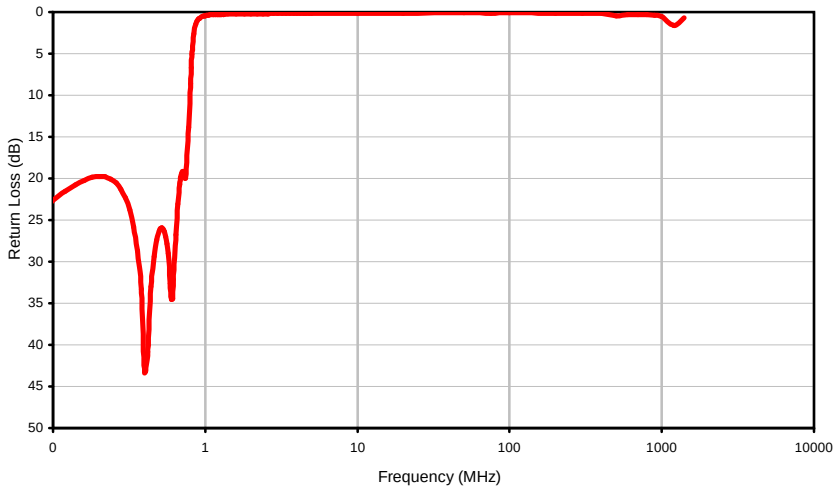
FREQUENCY (MHz)	GROUP DELAY (nsec)
0.03	858.48
0.07	1834.31
0.10	882.59
0.12	879.38
0.16	887.32
0.18	893.44
0.20	903.94
0.22	914.01
0.24	920.63
0.28	945.81
0.30	957.88
0.32	973.73
0.34	998.01
0.36	1012.25
0.40	1039.67
0.44	1092.01
0.46	1109.65
0.48	1134.53
0.50	1164.91
0.52	1193.79
0.54	1234.81
0.56	1280.98
0.58	1336.32
0.60	1391.93

Typical Performance Curves

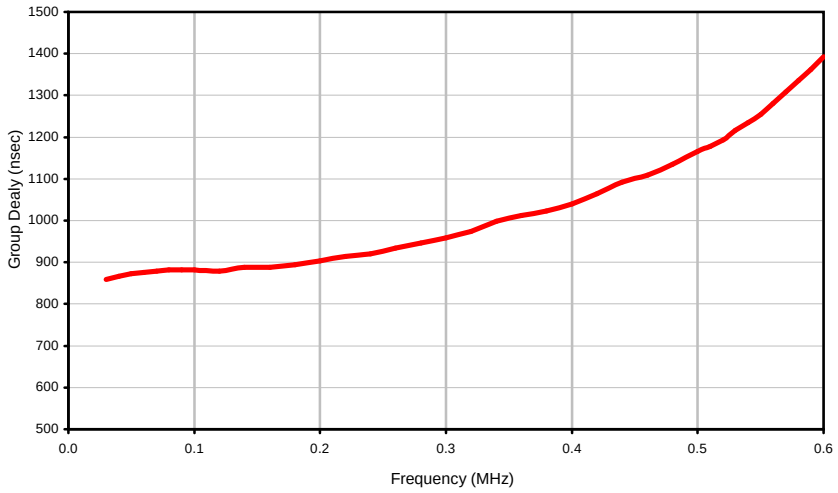
Insertion Loss



Return Loss



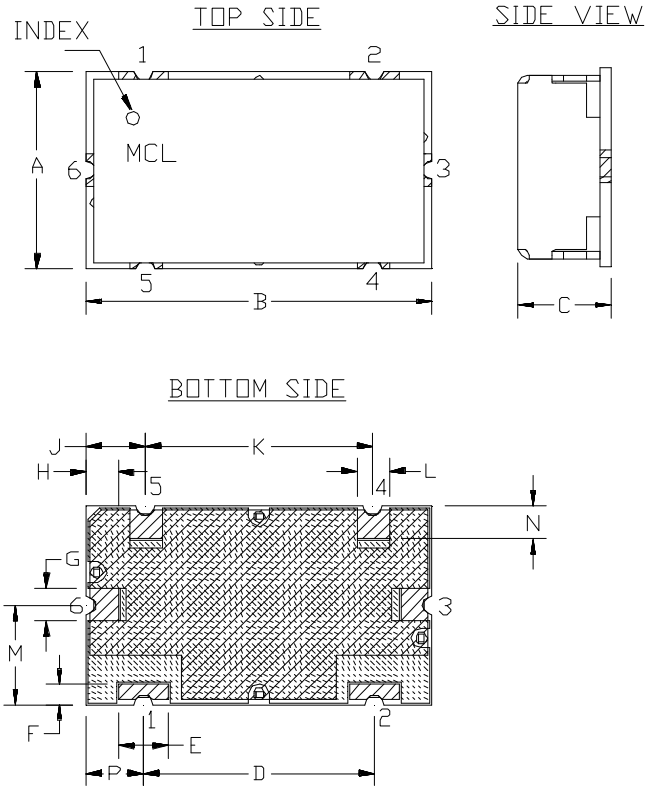
Group Delay



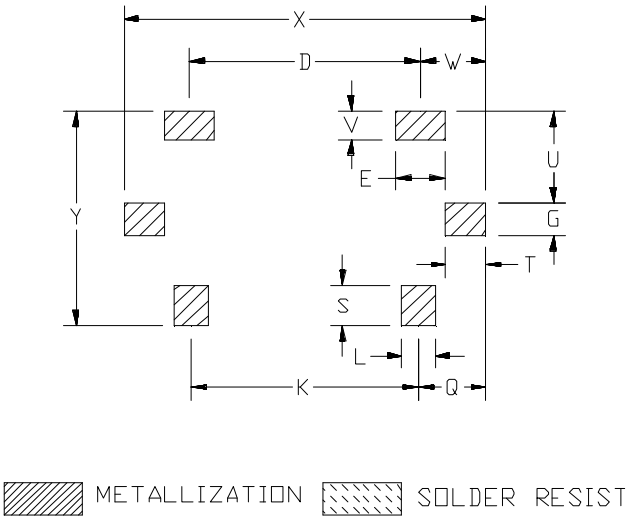
Case Style HZ

Outline Dimensions

HZ1198



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE #	A	B	C	D	E	F	G	H	J	K	L	M
HZ1198	.472" (11.99)	.826" (20.98)	.220" (5.59)	.551" (14.00)	.118" (3.00)	.047" (1.19)	.078" (1.98)	.076" (1.92)	.142" (3.61)	.543" (13.79)	.078" (1.98)	.236" (5.99)

CASE #	N	P	Q	S	T	U	V	W	X	Y	WT GRAMS	NOTES
HZ1198	.079" (2.01)	.138" (3.51)	.162" (4.11)	.098" (2.49)	.096" (2.44)	.217" (5.51)	.067" (1.70)	.157" (3.99)	.866" (22.00)	.512" (13.00)	6.0	A35

Dimensions are in inches (mm). Tolerances: 2PL. +/- .03; 3PL. +/- .015

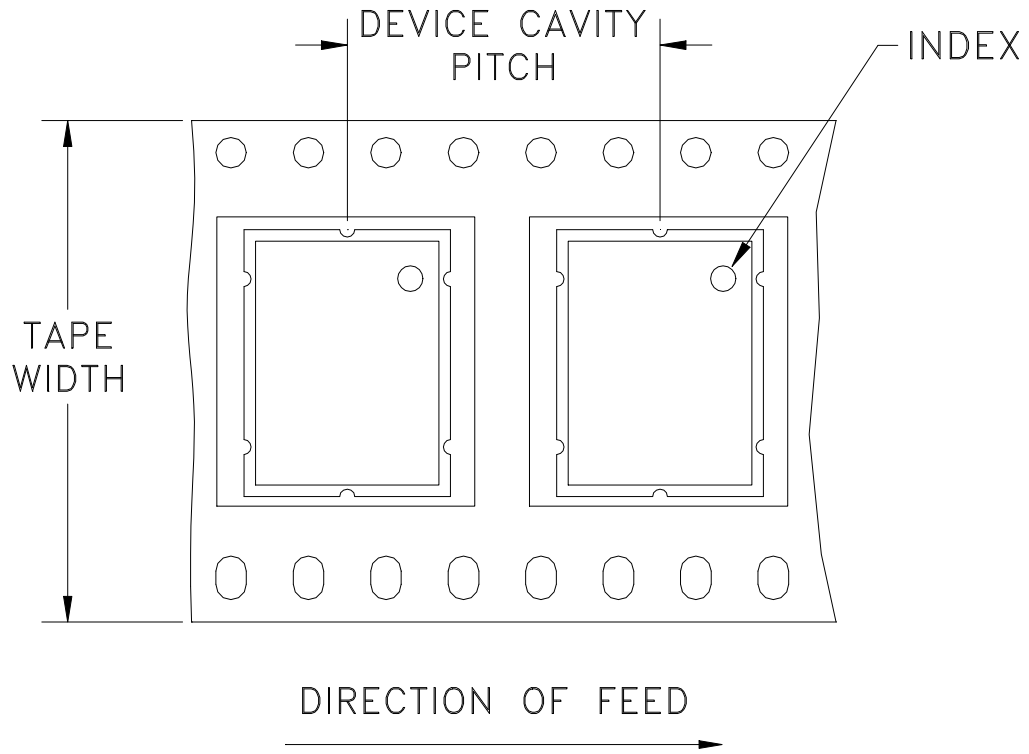
Notes:

1. Case material: Nickel-Silver alloy.
2. Base: Printed wiring laminate.
3. Termination finish:

   For RoHS Case Styles: 3-5 µinch (.08-.13 microns) Gold over 120-240 µinch (3.05-6.10 microns) Nickel plate.
   For RoHS-5 Case Styles: Tin-Lead plate.

Tape & Reel Packaging TR-F6

DEVICE ORIENTATION IN T&R



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	16	13	500

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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Environmental Specifications ENV12

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 Ambient Environment	Individual Model Data Sheet
Storage Temperature	-65° to 150° C Ambient Environment	Individual Model Data Sheet
Autoclave	15 psig, 100% RH, 121°C, 96 hours	JESD22-A102-C, Condition C
Temperature Cycling	-65° to 150°C, 100 cycles	JESD22-A104
Temperature Humidity	85°C/ 85% RH, 168 hours	JESD22-113
Solder Reflow Heat	Sn-Pb Eutetic Process: 240°C peak Pb-Free Process: 260°C peak	J-STD-020, Table 4-1, 4-2 and 5-2; Figure 5-1
Moisture Sensitivity: Level 1	Bake at 125°C for 24 hours Soak at 85°C/85% RH for 168 hours, Reflow 3 cycles at 240°C peak (Non-RoHS) or 260°C (RoHS)	J-STD-020
Solderability	10X magnification, 95% coverage	JESD22-B102, Method 1: Dip and Look Test
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
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