

# Low Pass Filter

## Surface Mount

# LPF-EDU1019

### 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.



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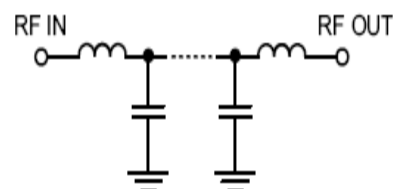
CASE STYLE : HZ1198

### ELECTRICAL SPECIFICATIONS 50Ω @ +25°C

Parameter	Min.	Typ.	Max.	Units
Passband (Loss < 1.5 dB)	DC		0.875	MHz
Insertion loss 3dB		1.065		MHz
Stopband (Loss > 20 dB)	1.3		1.46	MHz
	1.46		1200	MHz
Passband VSWR		1.2	1.7	(: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

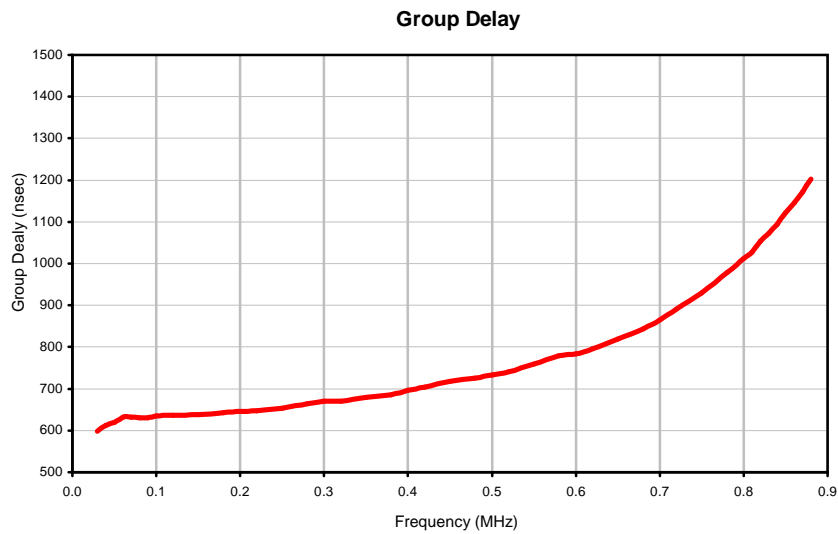
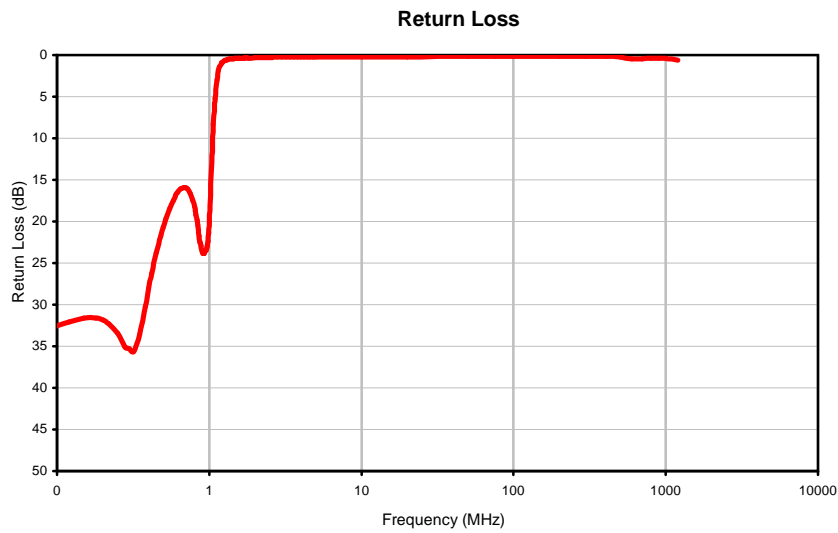
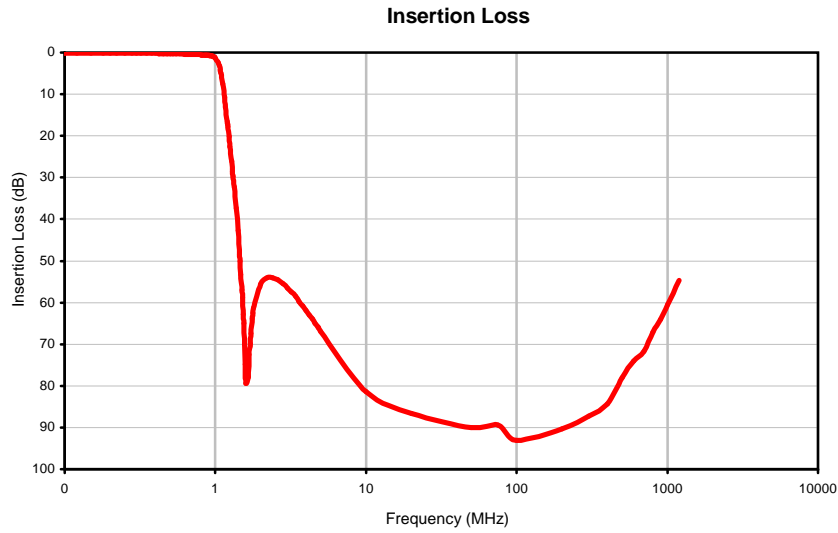
# Low Pass Filter

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## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
0.03	0.16	34.67	0.03	598.40
0.30	0.20	35.31	0.05	620.19
0.60	0.38	16.94	0.07	631.24
0.70	0.47	15.94	0.09	630.93
0.88	0.62	22.62	0.12	635.99
0.97	0.96	22.93	0.18	643.23
1.00	1.23	20.04	0.20	645.52
1.05	2.48	10.66	0.25	654.02
1.07	3.20	8.28	0.30	669.95
1.08	4.12	6.32	0.35	678.92
1.12	7.56	3.03	0.40	697.08
1.15	10.76	1.86	0.45	717.61
1.17	13.04	1.41	0.50	733.75
1.20	16.57	1.02	0.55	758.77
1.25	22.54	0.71	0.60	784.12
1.30	28.58	0.58	0.65	819.50
1.37	37.32	0.48	0.70	864.35
1.41	42.67	0.45	0.75	928.94
1.46	50.07	0.42	0.80	1011.52
10.00	81.48	0.26	0.82	1053.43
100.00	93.07	0.16	0.84	1093.63
500.00	77.98	0.24	0.86	1146.15
1000.00	60.49	0.40	0.87	1172.08
1200.00	54.66	0.65	0.88	1186.86

## Typical Performance Curves

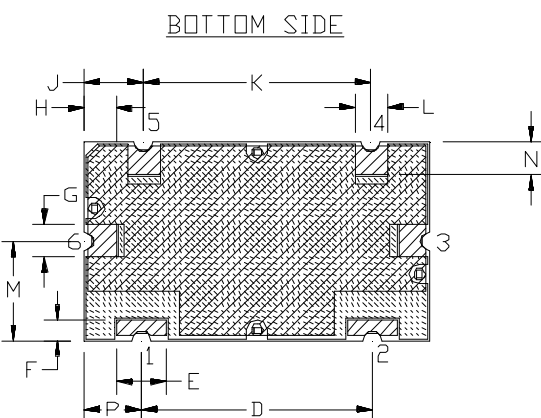
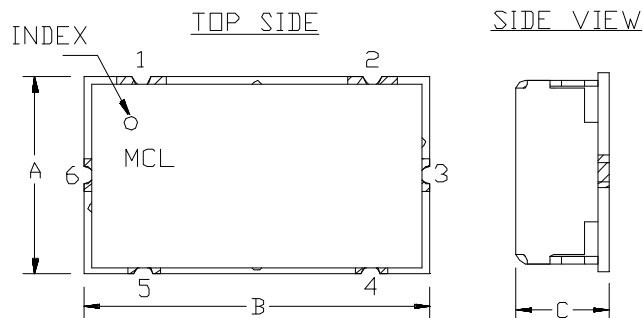


# Case Style

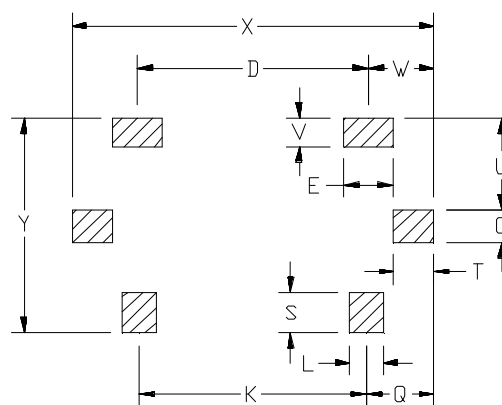
# HZ

## Outline Dimensions

## HZ1198



## PCB Land Pattern



 METALLIZATION  SOLDER RESIST

Suggested Layout,  
Tolerance to be within  $\pm .002$

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  $\mu$ inch (.08-13 microns) Gold over 120-240  $\mu$ inch (3.05-6.10 microns) Nickel plate.  
For RoHS-5 Case Styles: Tin-Lead plate.

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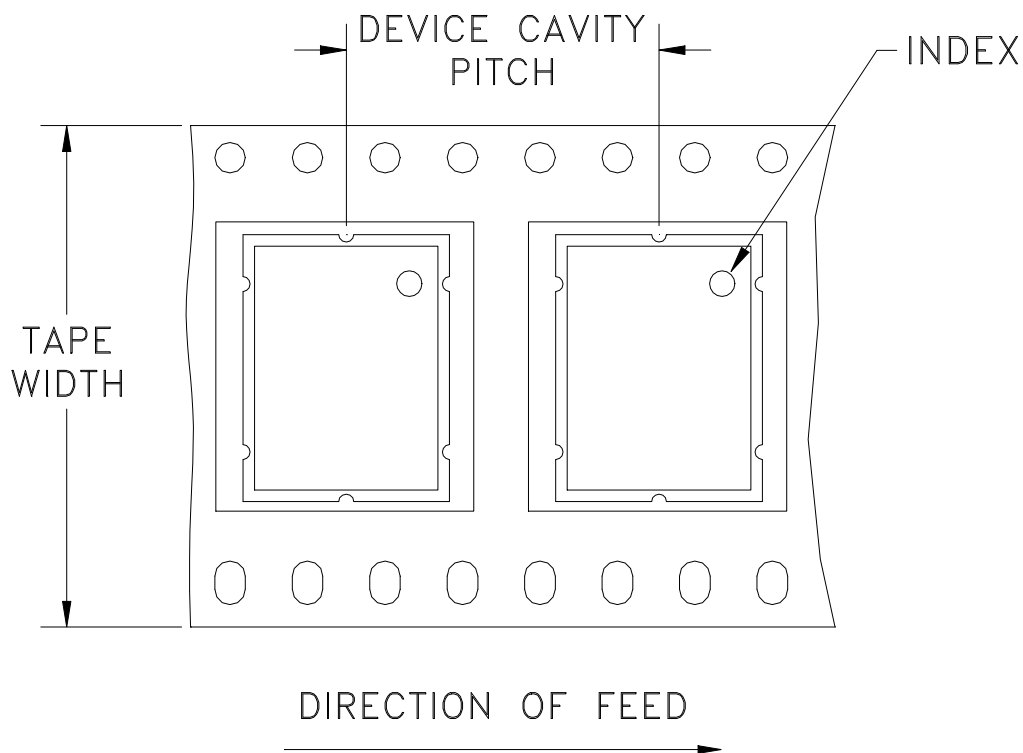


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RF/IF MICROWAVE COMPONENTS

# 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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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