Surface Mount

Low Pass Filter

RLP-1094+

50Ω DC to 1094 MHz

Generic photo used for illustration purposes only

CASE STYLE: GP731

The Big Deal

- Passband (DC to 1094 MHz)
- Low Insertion Loss (0.7 dB typical)
- Good VSWR (1.4:1 typical)
- High Rejection
- Very small size (0.35" x 0.35" x 0.10")
- High power handling (3.5W)

Product Overview

The RLP-1094+ is a Lowpass filter fabricated using SMT technology. Covering up to 1094 MHz, this model offers very low passband insertion loss of 0.7 dB typical, good matching within the passband and high rejection. In addition it has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Good VSWR, 1.4:1 typical in passband	This provides well matched input and output ports.
Flat group delay characteristics	The model has a group delay flatness of 0.5 nsec which helps in reducing the signal distortion.
More than 40 dB rejection up to 3400 MHz	This enables the filter to attenuate spurious signals and reject harmonics over a broad frequency band.
Small size, 0.35" x 0.35" x 0.10"	The surface mount package enables the RLP-1094+ to be used in compact designs.
Shielded case	Reduced interference with and from the surrounding components.

Notes
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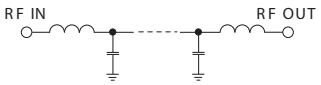
Features

- High rejection
- Good VSWR, 1.4:1 typical in passband
- Aqueous washable

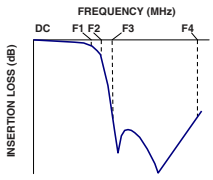
Applications

- TV Broad casting
- Wireless communications
- VHF/UHF receivers / transmitters
- Military

Functional Schematic



Typical Frequency Response



+RoHS Compliant

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

Electrical Specifications at 25°C

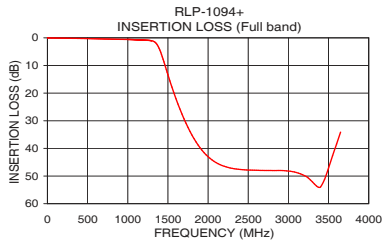
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC-1094	—	0.7	1.0	dB
	Freq. Cut-Off	F2	1380	—	3.0	—	dB
	VSWR	DC-F1	DC-1094	—	1.4	1.9	:1
Stop Band	Rejection Loss	F3-F4	1700-3650	20	28	—	dB
	VSWR	F3-F4	1700-3650	—	37	—	:1

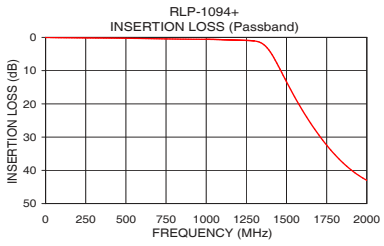
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	3.5W max.

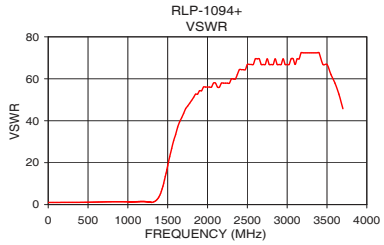
Permanent damage may occur if any of these limits are exceeded.

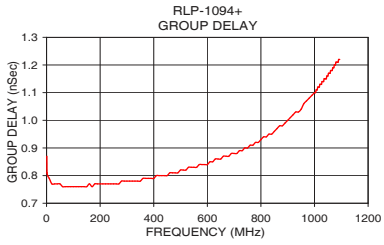
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	0.02	1.00	1.0	0.87
20.0	0.04	1.01	2.0	0.81
80.0	0.09	1.03	10.0	0.79
300.0	0.18	1.04	20.0	0.77
640.0	0.37	1.24	70.0	0.76
1000.0	0.61	1.34	100.0	0.76
1050.0	0.66	1.35	150.0	0.76
1094.0	0.72	1.39	200.0	0.77
1130.0	0.79	1.43	300.0	0.78
1250.0	0.95	1.34	400.0	0.79
1350.0	1.85	1.84	450.0	0.80
1380.0	3.18	3.05	500.0	0.82
1430.0	6.98	7.47	600.0	0.84
1500.0	13.50	18.50	650.0	0.86
1650.0	25.90	39.49	700.0	0.88
1700.0	29.36	43.44	800.0	0.93
1900.0	39.84	54.29	900.0	1.00
2300.0	47.40	59.91	1000.0	1.10
3400.0	53.85	72.39	1050.0	1.16
3650.0	35.73	52.65	1094.0	1.22









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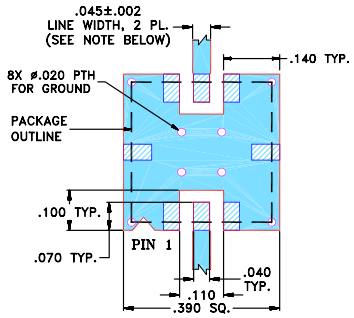
Pad Connections

INPUT	2
OUTPUT	6
GROUND	1,3,4,5,7,8

Demo Board MCL P/N: TB-332
Suggested PCB Layout (PL-176)

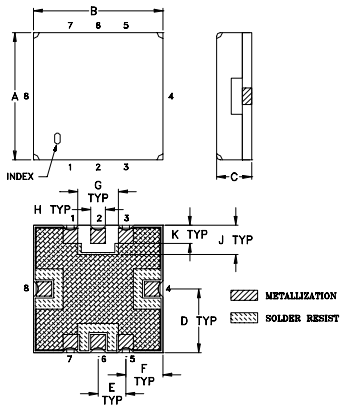


NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

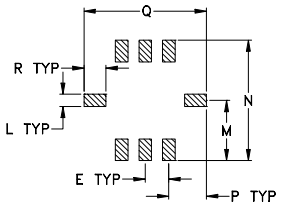
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.350	.350	.100	.175	.075	.100	.110	.040	.080
8.89	8.89	2.54	4.45	1.91	2.54	2.79	1.02	2.03

K	L	M	N	P	Q	R	wt
.050	.040	.195	.390	.120	.390	.070	grams
1.27	1.02	4.95	9.91	3.05	9.91	1.78	0.25

Note: Please refer to case style drawing for details

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