Surface Mount

Bandpass Filter

BPF-V1000+

50Ω 940 to 1060 MHz



Generic photo used for illustration purposes only

CASE STYLE: KV1974

The Big Deal

- Flat group delay
- Steep rejection up to 3000 MHz
- Thin package

Product Overview

The BPF-V1000+ is a 50Ω bandpass filter fabricated using SMT technology. This bandpass filter covers from 940-1060 MHz. It has very low group delay flatness for the committed rejection performance. Equalization had made with in the circuit to achieve this. So that this filter provides sharp rejection with flat group delay in the flat gain requirement application.

Key Features

Feature	Advantages
Low group delay flatness	Can be used in flat gain requirement application
Steep rejection	This enables the filter to attenuate spurious signals near the passband edges and goes up to 3000 MHz
Thin package	Helps to use in the small housing.

Notes
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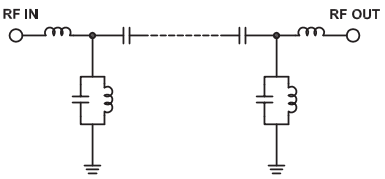
Features

- Flat group delay
- Steep rejection up to 3000 MHz
- Thin package

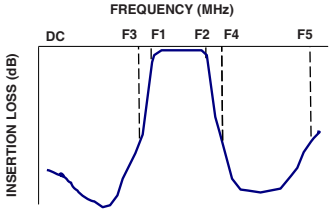
Applications

- Aviation / Aeronautical
- Radar and Navigation system

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	Center Frequency	—	—	—	1000	—	MHz
	Insertion Loss	F1-F2	940-1060	—	5	6	dB
	Group delay flatness	F1-F2	940-1060	—	3	—	ns
	VSWR	F1-F2	940-1060	—	1.5	2	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-860	30	40	—	dB
	VSWR	DC-F3	DC-860	—	10	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	1140-3000	30	40	—	dB
	VSWR	F4-F5	1140-3000	—	10	—	:1

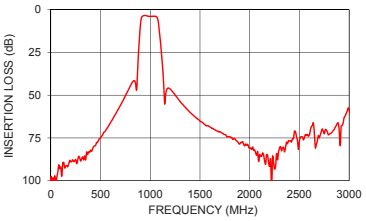
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5 W

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

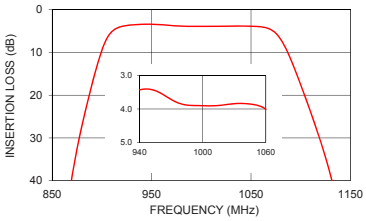
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	99.47	192.05	940	11.15
250	87.68	72.29	945	11.05
860	47.17	23.99	950	11.04
880	27.10	12.58	960	11.15
885	22.16	9.85	970	11.31
895	13.22	4.90	975	11.43
905	6.75	1.88	980	11.57
920	3.92	1.25	990	11.80
940	3.43	1.34	995	11.82
1000	3.90	1.05	1000	11.74
1060	4.01	1.36	1005	11.58
1085	9.06	3.30	1010	11.38
1100	17.59	7.90	1015	11.15
1105	20.75	9.66	1020	10.94
1120	30.84	14.93	1025	10.75
1125	34.60	16.70	1030	10.60
1140	49.83	22.00	1035	10.49
2000	81.15	126.29	1040	10.44
2500	76.64	102.68	1050	10.66
3000	58.51	91.68	1060	11.64

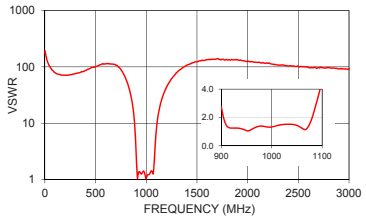
BPF-V1000+
INSERTION LOSS (Full band)



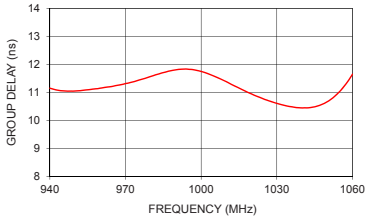
BPF-V1000+
INSERTION LOSS (Pass band)



BPF-V1000+
VSWR



BPF-V1000+
GROUP DELAY



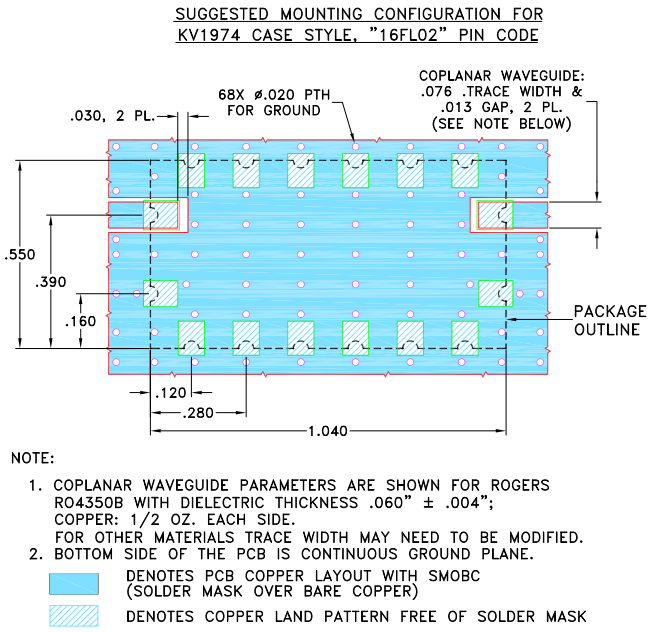
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Pad Connections

INPUT	1
OUTPUT	10
GROUND	2,3,4,5,6,7,8,9,11,12,13,14,15,16

Demo Board MCL P/N: TB-953+
Suggested PCB Layout (PL-507)



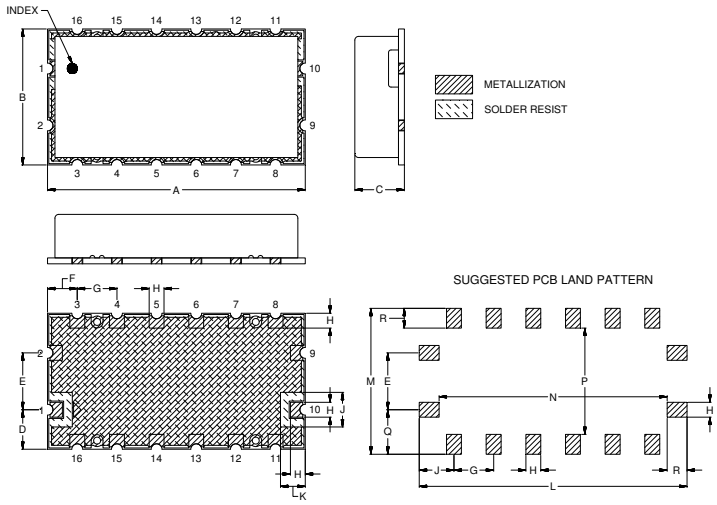
NOTE:

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .060" ± .004";
   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



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
1.040	**.550**	**.200**	**.160**	**.230**	**.120**	**.160**	**.060**	**.140**
26.42	13.97	5.08	4.06	5.84	3.05	4.06	1.52	3.56

K	L	M	N	P	Q	R	Wt.
.100	**1.080**	**.590**	**.920**	**.430**	**.180**	**.080**	grams
2.54	27.43	14.99	23.37	10.92	4.57	2.03	2

Note: Please refer to case style drawing for details

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