Surface Mount

Bandpass Filter

BPF-C138+

50Ω 105 to 180 MHz



CASE STYLE: HU1186

Maximum Ratings

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

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

Pin Connections

INPUT	2
OUTPUT	9
NOT CONNECTED	6, 13
GROUND	1, 3, 4, 5, 7,8,10,11,12,14

Features

- High rejection
- Good VSWR, 1.3:1 typ @ passband
- Shielded case
- Aqueous washable

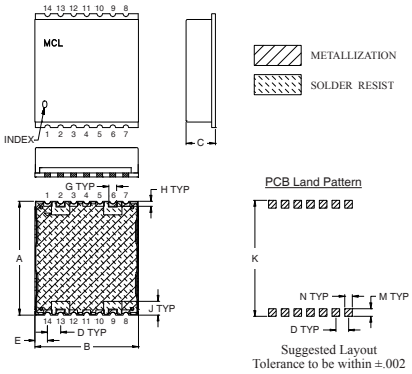
Applications

- Receivers / transmitters
- Wireless communication systems

+RoHS Compliant

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

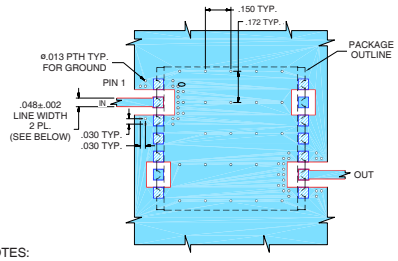
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	G	H	J	K	M	N	wt.
.870	.800	.25	.100	.097	.060	.040	.105	.910	.060	.060	grams
22.10	20.32	6.35	2.54	2.46	1.52	1.02	2.67	23.11	1.52	1.52	2.85

Demo Board MCL P/N: TB-500+
Suggested PCB Layout (PL-294)



NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B, DIELECTRIC THICKNESS: .030"± .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.

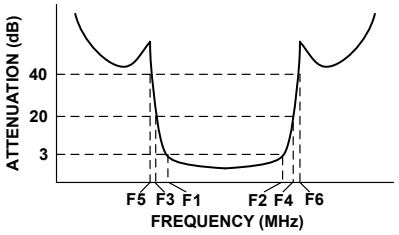
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

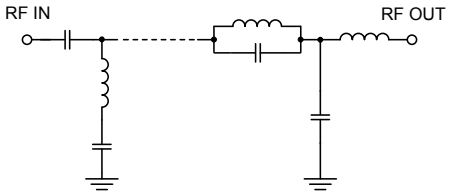
Bandpass Filter Electrical Specifications (T_{AMB}= 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 3dB)	STOPBANDS (MHz)				VSWR (:1)		
		Loss > 20dB		Loss > 40dB		Passband		Stopband
Fc	F1 - F2	F3	F4	F5	F6	Typ.	Max.	Typ.
138	105 - 180	87	201	70	220 - 750	1.3	1.5	18

Typical Frequency Response



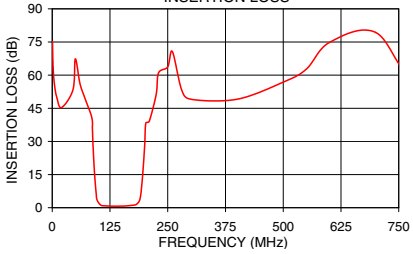
Functional Schematic



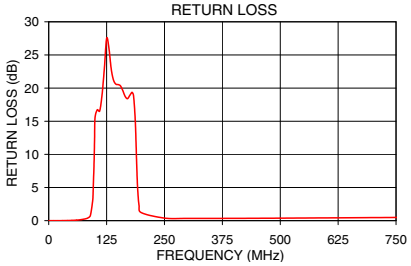
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB) $\bar{x}$	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nSec)
0.5	75.17	2.99	0.00	105.0	22.71
70.0	50.00	1.11	0.15	110.0	17.94
87.0	35.58	4.91	0.53	115.0	15.36
90.0	20.97	2.27	0.79	120.0	13.76
93.0	11.31	1.32	1.56	125.0	12.69
95.0	6.55	0.86	3.07	130.0	11.93
97.0	3.52	0.43	6.44	135.0	11.52
99.0	2.09	0.16	12.18	138.0	11.35
105.0	1.19	0.02	16.74	140.0	11.32
138.0	0.70	0.02	21.71	145.0	11.34
180.0	1.38	0.05	19.36	150.0	11.58
188.0	2.62	0.20	12.94	155.0	11.95
192.0	6.52	0.76	4.97	160.0	12.56
195.0	12.89	1.09	2.34	162.0	12.88
200.0	27.70	1.49	1.21	168.0	14.24
201.0	31.52	1.70	1.12	170.0	14.86
220.0	45.26	1.10	0.58	175.0	17.10
750.0	73.96	8.40	0.48	180.0	20.64

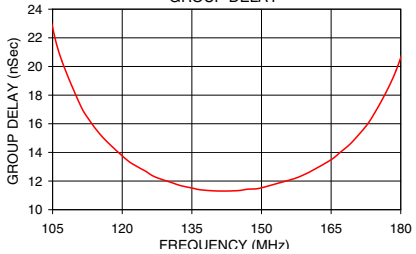
BPF-C138+
INSERTION LOSS



BPF-C138+
RETURN LOSS



BPF-C138+
GROUP DELAY



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.
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