Surface Mount

Bandpass Filter

BPF-B140N+

50Ω 137 to 143 MHz



Generic photo used for illustration purposes only

CASE STYLE: HZ1198

+RoHS Compliant

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

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	1
OUTPUT	2
GROUND	3, 4, 5, 6

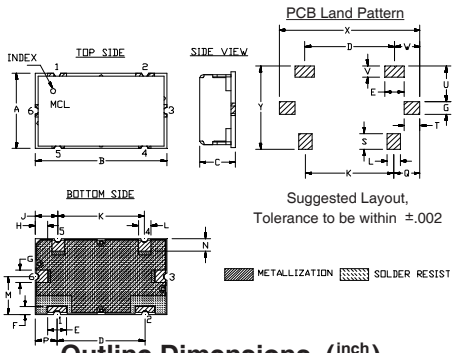
Features

- Excellent rejection
- Flat group delay @ passband
- Good VSWR, 1.3:1 typ. @ passband

Applications

- Receivers/transmitters
- PMR / PAMR
- Base station

Outline Drawing



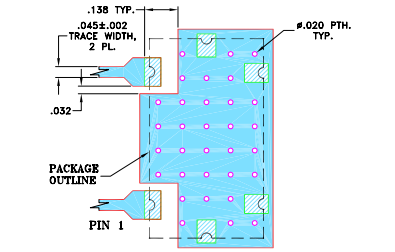
Outline Dimensions (inch / mm)

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

N	P	Q	S	T	U	V	W	X	Y	wt
.079"	.138"	.162"	.098"	.096"	.217"	.067"	.157"	.866"	.512"	grams
2.01	3.51	4.11	2.49	2.44	5.51	1.70	3.99	22.00	13.00	6.0

Note: Please refer to case style drawing for details

Demo Board MCL P/N: TB-400+
Suggested PCB Layout (PL-247)



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.

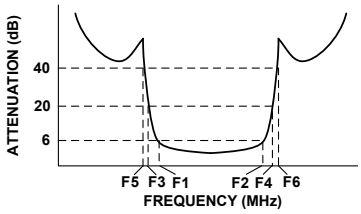
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

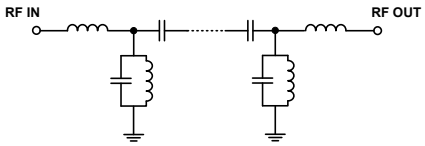
Bandpass Filter Electrical Specifications (T_{AMB}= 25°C)

CENTER FREQ. (MHz)	PASSBAND (MHz) (Loss < 6dB) F1 - F2	STOPBANDS (MHz) Loss > 20dB F3	F4	Loss > 40dB F5	F6	VSWR (:1) Passband Max.	Stopband Typ.
140	137 - 143	126	154	119	165 - 1500	1.6	30

Typical Frequency Response



Functional Schematic



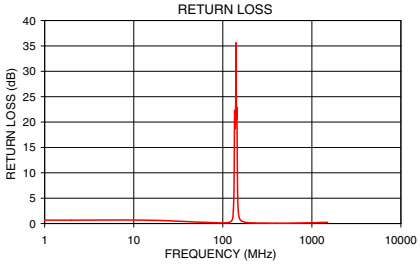
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB) x̄	σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
1.0	84.10	3.17	0.67	135.0	96.41
119.0	51.15	0.38	0.25	136.0	90.34
126.0	35.29	0.32	0.57	137.0	83.07
130.0	22.83	0.33	1.41	137.5	79.66
133.0	11.59	0.34	4.96	138.0	78.33
134.0	8.44	0.29	8.99	138.5	76.61
137.0	4.71	0.08	19.03	139.0	75.42
140.0	4.32	0.07	27.57	139.5	74.79
143.0	4.83	0.08	20.72	140.0	74.28
146.0	9.03	0.34	8.53	140.5	74.18
148.0	15.72	0.39	3.44	141.0	74.84
154.0	32.74	0.33	1.01	141.5	75.90
165.0	51.19	0.44	0.43	142.0	76.78
200.0	76.29	2.43	0.15	142.5	78.59
400.0	80.32	3.07	0.07	143.0	81.75
800.0	81.57	3.51	0.13	143.5	85.13
1000.0	77.76	4.06	0.16	144.0	88.85
1500.0	66.03	1.78	0.24	145.0	92.31

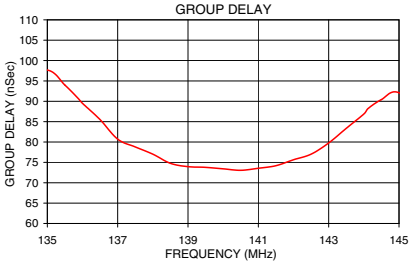
BPF-B140N+
INSERTION LOSS



BPF-B140N+
RETURN LOSS



BPF-B140N+
GROUP DELAY



Notes

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B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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