Surface Mount

Bandpass Filter

RBP-188+

50Ω 138 to 238 MHz

Generic photo used for illustration purposes only

CASE STYLE: GP731

The Big Deal

- Low insertion loss
- Broader bandwidth
- High Rejection
- Miniature shielded package

Product Overview

The RBP-188+ is a broad band filter in a small shielded package (size of 0.35" x 0.35" x 0.10") fabricated using SMT technology. This filter offers outstanding close in rejection, low insertion loss for use in mobile networks and digital television.

Key Features

Feature	Advantages
High Rejection	RBP-188+ is enables the filter to attenuate spurious signals and rejects harmonics for broad band of frequency.
Low Passband VSWR	This filter maintains typical VSWR over passband frequency range making this filter easier to integrate into receiver and transmitter RF chains with less concerns for in band frequency ripple.
Small size, 0.35" x 0.35" x 0.10"	The unique surface mount package enables the RBP-188+ to be used in compact design.

Surface Mount

Bandpass Filter

50Ω 138 to 238 MHz

RBP-188+

Generic photo used for illustration purposes only

CASE STYLE: GP731

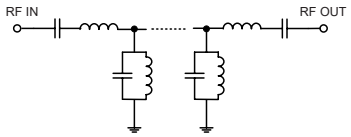
Features

- Broader bandwidth
- Low insertion loss
- High rejection
- Miniature shielded package

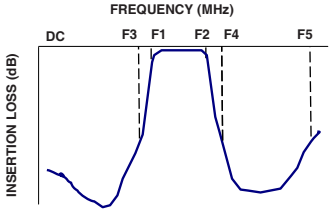
Applications

- Auxiliary broadcasting
- Biomedical telemetry devices
- Private and public land mobile
- Digital television

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	—	—	—	188	—	MHz
	Insertion Loss	F1-F2	138-238	—	1.80	3.00	dB
	VSWR	F1-F2	138-238	—	1.38	1.92	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-96	20	27	—	dB
	VSWR	DC-F3	DC-96	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	315-3600	20	25	—	dB
	VSWR	F4-F5	315-3600	—	20	—	:1

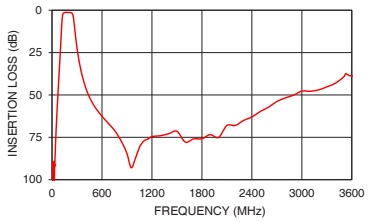
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.25 W

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

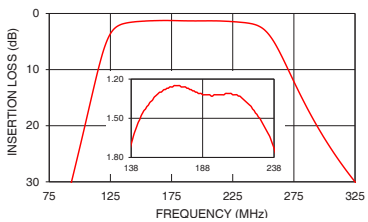
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	90.54	17371.78	138	14.15
70	50.37	144.77	140	13.47
92	31.06	48.26	142	12.88
96	27.49	38.61	146	11.92
104	20.16	22.00	155	10.48
112	12.69	10.62	160	9.95
120	6.15	4.01	168	9.30
126	3.28	2.04	173	8.97
138	1.70	1.16	178	8.69
188	1.32	1.34	183	8.46
238	1.73	1.26	188	8.29
252	3.14	2.20	193	8.19
263	6.73	5.27	198	8.17
278	13.48	13.60	203	8.20
296	20.81	24.48	225	8.82
315	27.14	34.07	228	8.99
325	30.00	37.77	230	9.13
500	55.97	72.39	234	9.51
2000	75.06	31.60	236	9.75
3600	38.61	28.96	238	10.03

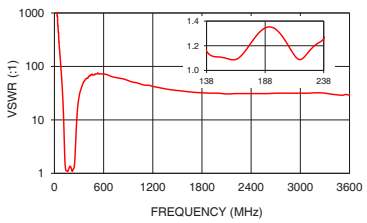
RBP-188+
INSERTION LOSS (Full band)



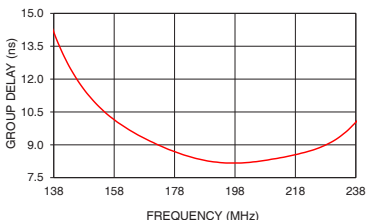
RBP-188+
INSERTION LOSS (Pass band)



RBP-188+
VSWR



RBP-188+
GROUP DELAY



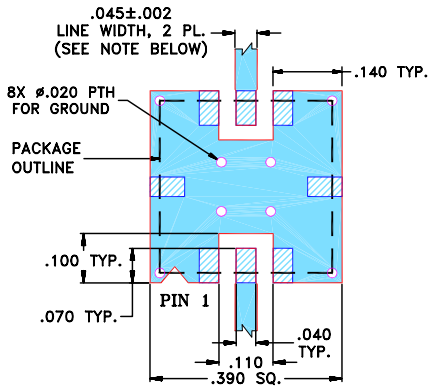
Notes

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.
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.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

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)

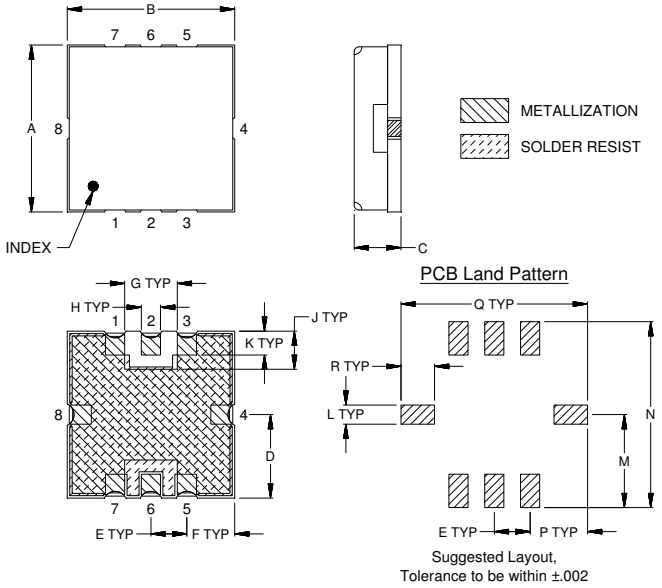


NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Drawing



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