



THE BIG DEAL

- High Rejection
- Miniature shielded package
- Good return loss, 14dB typ. @ passband
- Small size 0.35" x 0.35" x 0.10"
- Shielded case
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: GP731

+RoHS Compliant

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

APPLICATIONS

- Transmitters / Receivers
- Navigation

PRODUCT OVERVIEW

The RBP-650A+ 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 and finds application in transmitter and receivers circuits.

KEY FEATURES

Feature	Advantages
High Rejection	The high rejection enables the filter to reject adjacent channels effectively.
Low Passband return loss	This filter maintains good typical return loss 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 small surface mount package enables the RBP-650A+ to be used in compact designs.

REV. OR
ECO-012897
RBP-650A+
EDU4354
URJ
220420



ELECTRICAL SPECIFICATIONS AT 25°C

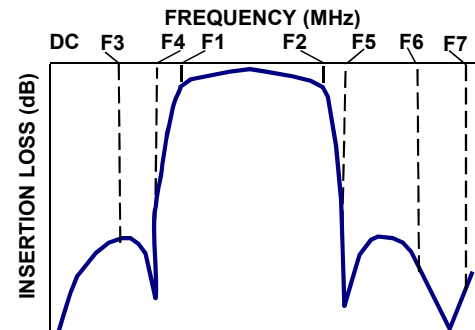
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	652	—	MHz
	Insertion Loss	F1-F2	624 - 680	—	—	7	dB
	Return Loss	F1-F2	624 - 680	—	14	—	dB
Stop Band, Lower	Insertion Loss	F3	520	35	—	—	dB
		F4	550	20	—	—	
Stop Band, Upper	Insertion Loss	F5	760	20	—	—	dB
		F6-F7	810 - 1000	35	—	—	

MAXIMUM RATINGS

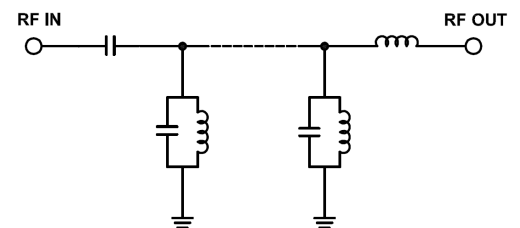
Parameter	Ratings
Operating temperature	-40°C to +85°C
Storage temperature	-55°C to +100°C
RF Power Input	0.5W at 25°C

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

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC





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SURFACE MOUNT METAL SHIELD

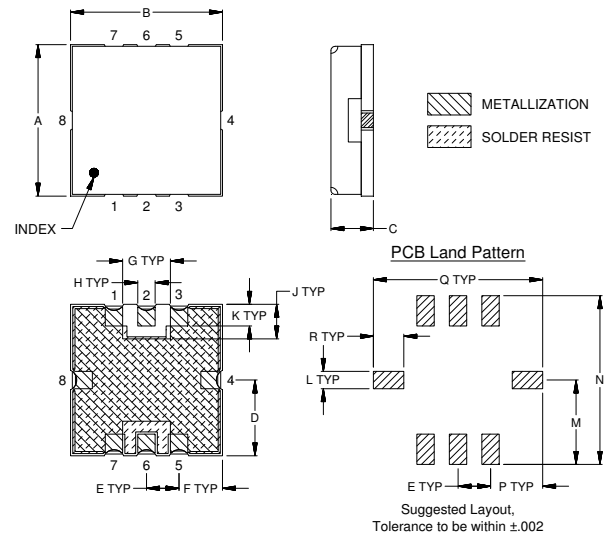
Bandpass Filter

RBP-650A+

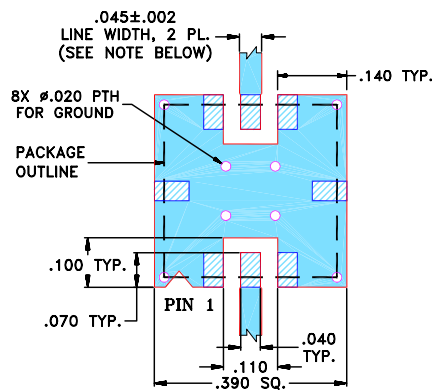
PAD CONNECTIONS

RF IN	2
RF OUT	6
GROUND	1,3,4,5,7,8

OUTLINE DRAWING



DEMO BOARD MCL P/N: TB-RBP-650A+ 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 DIMENSIONS (Inches) mm

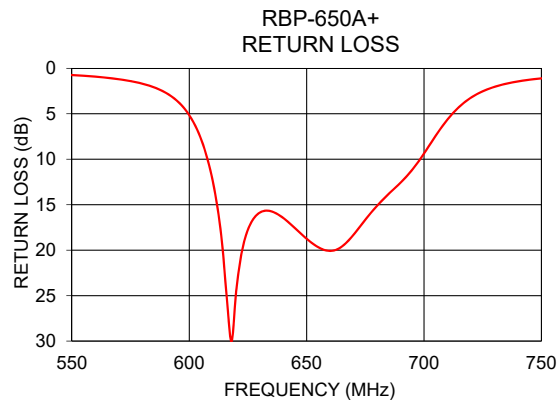
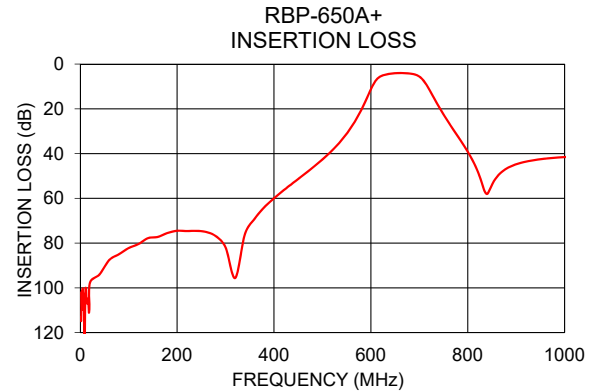
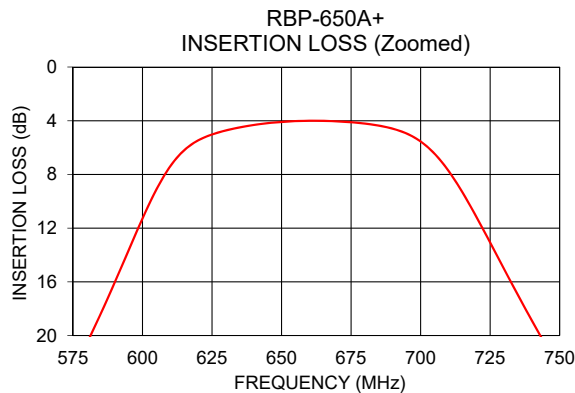
A	B	C	D	E	F	G	H	J
.350	.350	.100	.175	.075	.100	.110	.040	.080
8.89	8.89	2.54	4.45	1.91	2.54	2.79	1.02	2.03
K	L	M	N	P	Q	R	wt	
.050	.040	.195	.390	.120	.390	.070	grams	
1.27	1.02	4.95	9.91	3.05	9.91	1.78	0.25	

Note: Please refer to case style drawing for details



TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
1	113.30	0.06
200	74.50	0.07
520	38.59	0.47
550	31.13	0.74
580	20.57	1.69
610	7.39	12.40
624	5.10	18.50
630	4.72	15.87
650	4.09	18.74
652	4.06	19.16
680	4.21	15.12
760	25.93	0.90
776	31.15	0.70
810	43.00	0.49
1000	41.53	0.27



NOTES

- 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.
- 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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