Surface Mount

Bandpass Filter

RBPF-246+

50Ω 236 to 265 MHz

CASE STYLE: CK605

The Big Deal

- High rejection
- Better passband insertion loss and return loss
- Miniature shielded package

Product Overview

The RBPF-246+ is a 50Ω bandpass filter fabricated using SMT technology. This bandpass filter covers from 236 to 256 MHz. The filter is built with high Q capacitors, chip inductors and wire wound inductors for superior performance. In addition it has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Low insertion loss	Can be used in high performance applications such as radio astronomy.
Good rejection	This enables the filter to attenuate spurious signals and reject harmonics for broad frequency band.
Small size, 0.500" x 0.500" x 0.180 "	The small surface mount package enables the RBPF-246+ to be used in compact designs.

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Features

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- Miniature shielded case

Applications

- Military-aircraft
- Marine communication

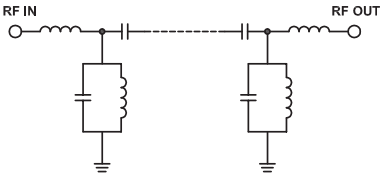
Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	246	—	MHz
	Insertion Loss	F1-F2	236-256	—	2.7	4	dB
	VSWR	F1-F2	236-256	—	1.3	1.67	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-180	20	31	—	dB
	VSWR	DC-F3	DC-180	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	315-3400	20	33	—	dB
	VSWR	F4-F5	315-3400	—	13	—	:1

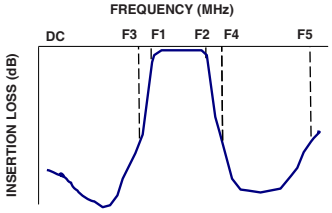
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.15 W

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

Functional Schematic



Typical Frequency Response

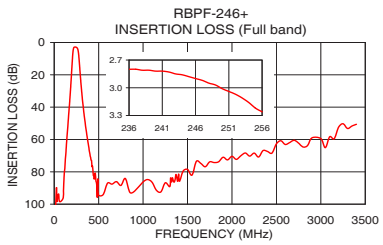


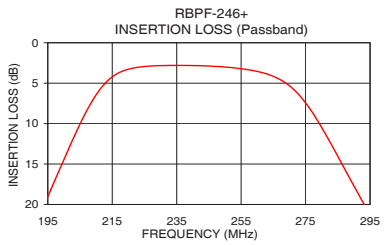
Typical Performance Data at 25°C

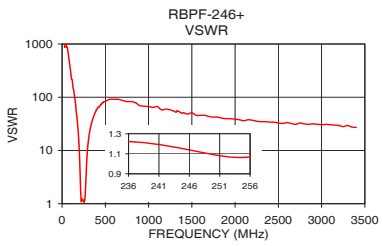
Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	105.36	1737.18	236	15.66
150	53.97	86.86	237	15.57
180	31.90	29.96	238	15.47
182	30.29	27.16	239	15.40
193	20.83	15.39	240	15.34
198	16.28	10.62	241	15.31
207	8.47	4.26	242	15.26
228	2.85	1.18	243	15.23
236	2.80	1.22	244	15.21
246	2.90	1.14	245	15.23
256	3.26	1.07	246	15.23
272	6.04	2.11	247	15.27
288	16.26	7.73	248	15.30
294	20.59	10.56	249	15.33
310	30.88	18.11	250	15.38
315	33.72	20.49	251	15.45
390	64.98	54.29	252	15.53
1500	78.50	51.10	253	15.63
2500	62.67	32.79	254	15.74
3400	50.60	27.16	256	15.98

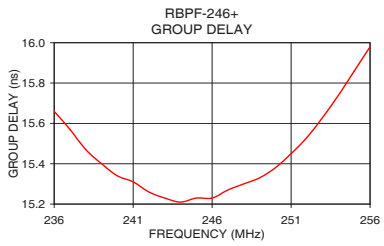
+RoHS Compliant

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









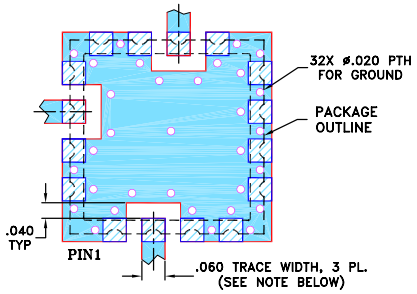
Notes

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	10
NOT CONNECTED	14
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Demo Board MCL P/N: TB-10
Suggested PCB Layout (PL-012)

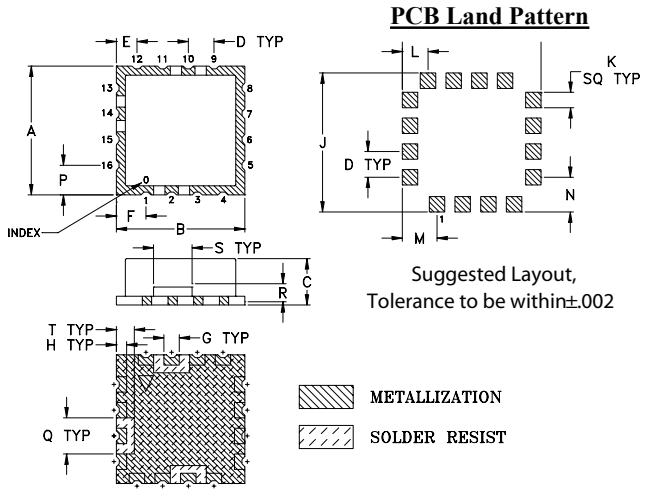


NOTES: 1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	
.500	.500	.180	.100	.080	.115	.060	.040	.540	
12.7	12.7	4.57	2.54	2.03	2.92	1.52	1.02	13.72	
K	**L**	**M**	**N**	**P**	**Q**	**R**	**S**	**T**	**wt.**
.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0