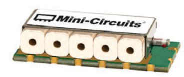
Surface Mount

Bandpass Filter

CBP-1300A+

50Ω 1200 to 1400 MHz



Generic photo used for illustration purposes only

CASE STYLE: KV1514

The Big Deal

- Excellent Rejection till 3.1GHz
- Excellent Return loss
- Low passband Insertion Loss
- Miniature shielded package

Product Overview

CBP-1300A+ is a ceramic-coaxial-resonator based bandpass filter in a shielded package fabricated using SMT technology. This filter offers outstanding close in rejection, low insertion loss and high power handling for use in aviation, military and defense applications.

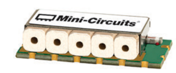
Key Features

Feature	Advantages
High Selectivity	The CBP-1300A+ filter incorporates High-Q ceramic resonators that enables sharp rejection near passband.
Far stopband rejection	CBP-1300A+ offers far stopband rejection due to proprietary design techniques.
Low Passband VSWR	This filter maintains typical VSWR over a wide passband frequency range making this filter easier to integrate into receiver and transmitter RF chains with less concerns for in band frequency ripple.
Rugged construction	The CBP-1300A+ has been qualified over wide range of thermal, mechanical and environmental conditions including withstanding the stress of extensive solder reflow cycles.

Surface Mount
Bandpass Filter

CBP-1300A+

50Ω 1200 to 1400 MHz



Generic photo used for illustration purposes only

CASE STYLE: KV1514

Features
- Low Insertion loss
- High selectivity
- Miniature shielded package
- Excellent return loss

Applications
- Aviation
- Defence
- Military Radar

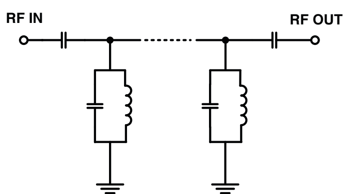
Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	-	-	-	1300	-	MHz
	Insertion Loss	F1-F2	1200-1400	-	1.1	2.0	dB
	VSWR	F1-F2	1200-1400	-	1.2	1.7	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1040	20.0	30.0	-	dB
	VSWR	DC-F3	DC-1040	-	20.0	-	:1
Stop Band, Upper	Insertion Loss	F4-F5	1640-3100	20.0	29.0	-	dB
	VSWR	F4-F5	1640-3100	-	20.0	-	:1

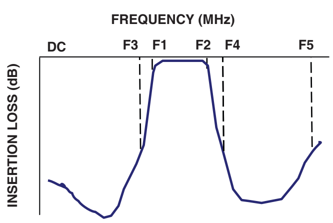
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	2 W max.

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

Functional Schematic

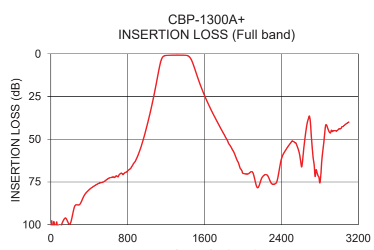


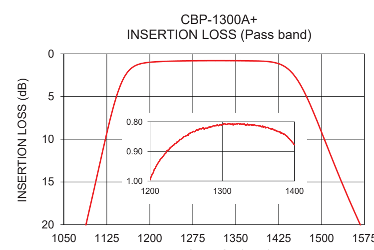
Typical Frequency Response

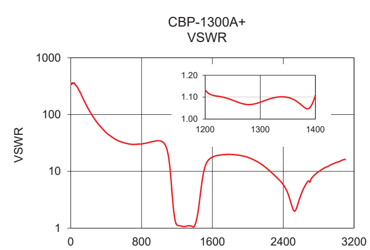


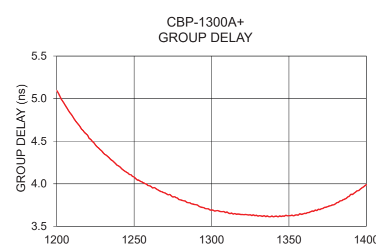
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	113.82	340.29	1200	5.10
30	98.21	351.65	1215	4.67
100	101.71	257.74	1230	4.36
250	89.00	92.58	1245	4.14
400	79.48	47.93	1260	3.98
650	72.09	30.51	1275	3.85
800	68.43	30.39	1290	3.75
1040	32.92	32.71	1300	3.69
1050	30.41	31.78	1310	3.67
1090	19.57	23.21	1320	3.64
1150	3.49	3.23	1330	3.62
1200	1.00	1.13	1340	3.61
1300	0.81	1.08	1350	3.63
1400	0.88	1.11	1360	3.65
1570	20.34	16.66	1365	3.68
1640	29.55	18.80	1370	3.70
1650	30.74	18.92	1380	3.76
2500	51.83	2.39	1390	3.88
2850	46.36	11.14	1395	3.92
3100	39.96	16.31	1400	3.99









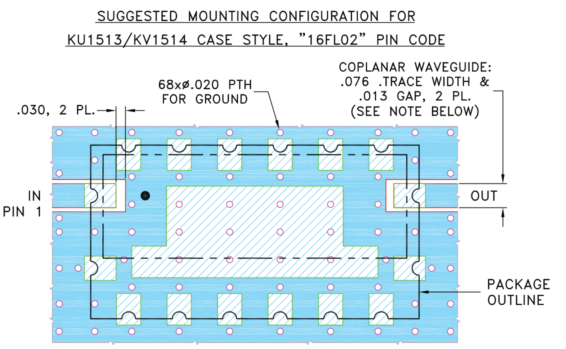
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

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

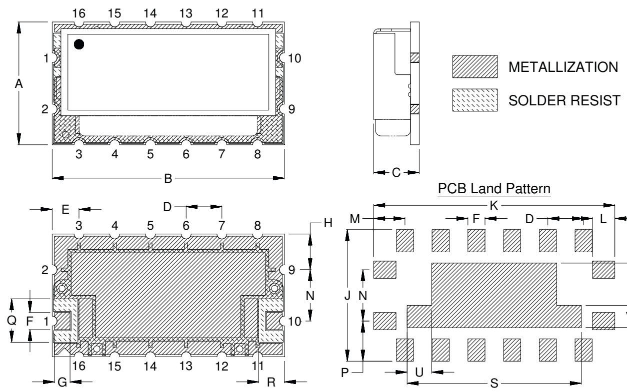
INPUT	1
OUTPUT	10
GROUND	2,3,4,5,6,7,8,9,11,12,13,14,15,16

Demo Board MCL P/N: TB-578+
Suggested PCB Layout (PL-331)



NOTE: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .060"±.004";
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



Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L
.550	**1.040**	**.225**	**.160**	**.120**	**.077**	**.070**	**.160**	**.590**	**1.080**	**.100**
13.97	26.24	5.72	4.06	3.05	1.96	1.78	4.06	14.99	27.43	2.54

M	N	P	Q	R	S	T	U	V		Wt.
.140	**.230**	**.180**	**.195**	**.115**	**.780**	**.290**	**.110**	**.100**		grams
3.56	5.84	4.57	4.95	2.92	19.81	7.37	2.79	2.54		4.8

Note: Please refer to case style drawing for details

Mini-Circuits®
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com