Surface Mount
Bandpass Filter
CBP-1034C+

50Ω   978 to 1090 MHz

Generic photo used for illustration purposes only
CASE STYLE: MP1766

The Big Deal

- Excellent Rejection
- Low passband Insertion Loss
- Miniature shielded package
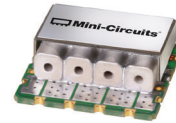
Product Overview

CBP-1034C+ 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, mobile radio, broadband and fixed wireless.

Key Features

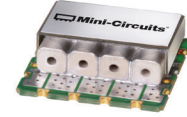| Feature	Advantages
High Selectivity	The CBP-1034C+ filter incorporates High-Q ceramic resonators that enables sharp rejection near passband.
Low Passband VSWR	This filter maintains typical VSWR over passband frequency range making this filter easier to integrate into receiver and transmitter RF chains with less concerns for in band frequency ripple.
Rugged construction	The CBP-1034C+ has been qualified over wide range of thermal, mechanical and environmental conditions including withstanding the stress of extensive solder reflow cycles.

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

Applications
- Traffic collision avoidance system (TCAS)
- Aeronautical radio navigation
- Fixed satellite
- Radio astronomy
- Radar and navigation system

Electrical Specifications at 25°C

| Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	1034	—	MHz
	Insertion Loss	F1-F2	978-1090	—	0.6	2	dB
	VSWR	F1-F2	978-1090	—	1.2	—	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-790	20	30	—	dB
	VSWR	DC-F3	DC-790	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	1400-2000	20	30	—	dB
	VSWR	F4-F5	1400-2000	—	20	—	:1

Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	5W

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

Functional Schematic

RF IN   RF OUT
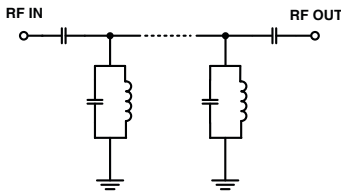
Typical Frequency Response

FREQUENCY (MHz)
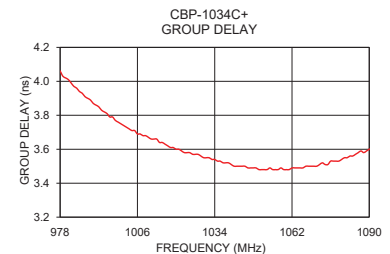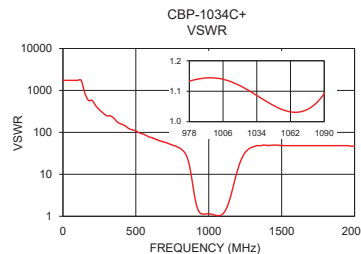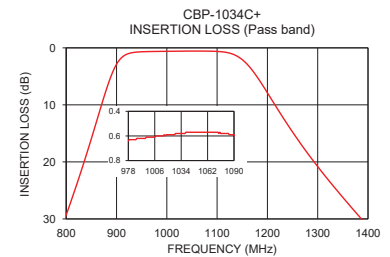
DC   F3 F1 F2 F4   F5
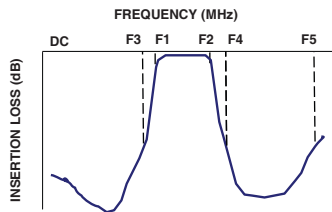
INSERTION LOSS (dB)

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	94.35	1737.18	978	4.06
660	63.48	64.35	984	3.96
790	31.74	43.44	989	3.89
850	15.91	26.33	992	3.85
875	8.62	11.93	996	3.79
890	4.76	5.72	1000	3.75
905	2.22	2.75	1008	3.68
920	1.14	1.65	1015	3.64
978	0.64	1.13	1020	3.60
1034	0.58	1.09	1025	3.58
1090	0.59	1.09	1030	3.55
1145	1.75	2.60	1034	3.54
1170	3.95	5.49	1040	3.51
1190	6.49	10.13	1045	3.50
1230	12.09	25.19	1050	3.48
1330	24.12	48.26	1055	3.48
1550	50.44	48.26	1060	3.48
1600	75.91	48.26	1070	3.50
1900	55.39	48.26	1080	3.54
2000	61.65	46.96	1090	3.60

CBP-1034C+
INSERTION LOSS (Full band)

CBP-1034C+
INSERTION LOSS (Pass band)

CBP-1034C+
VSWR

CBP-1034C+
GROUP DELAY
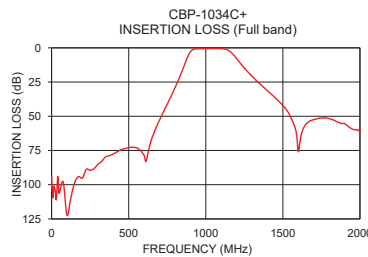
Notes
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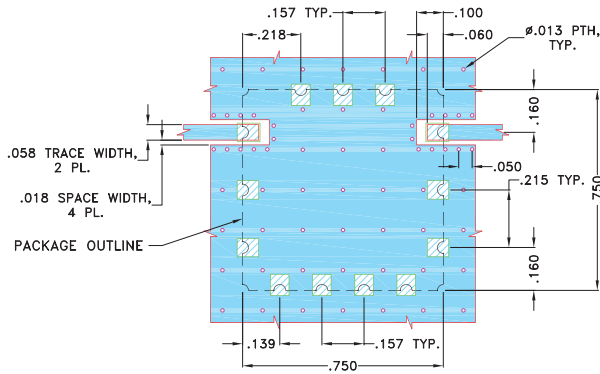
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Pad Connections

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

Demo Board MCL P/N: TB-684+
***Suggested PCB Layout (PL-373)***

NOTES:
1. TRACE WIDTH IS SHOWN FOR OAK (OAK-602) WITH DIELECTRIC THICKNESS .022"±.0015". 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

Outline Drawing

PCB Land Pattern

METALLIZATION

SOLDER RESIST
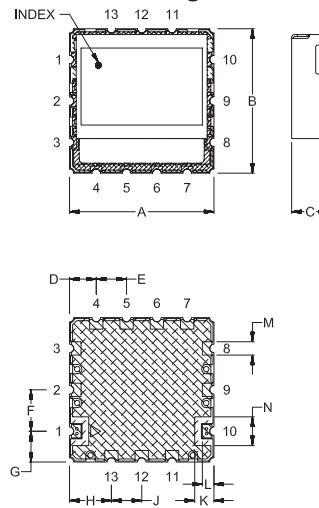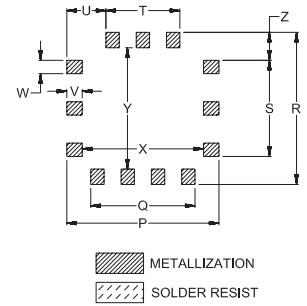
Outline Dimensions ($\frac{inch}{mm}$)

A	B	C	D	E	F	G	H	J	K	L	M	N
.750	.750	.210	.139	.157	.215	.160	.218	.157	.100	.060	.069	.149
19.05	19.05	5.33	3.53	3.99	5.46	4.06	5.54	3.99	2.54	1.52	1.75	3.78

P	Q	R	S	T	U	V	W	X	Y	Z		wt,
.790	.541	.790	.499	.384	.203	.080	.069	.630	.630	.145		grams
20.07	13.74	20.07	12.67	9.75	5.16	2.03	1.75	16.00	16.00	3.68		4.6

Note: Please refer to case style drawing for details

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