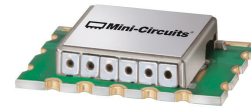


# Surface Mount Bandpass Filter

## CBP-1400E+

50Ω 1320 to 1480 MHz



Generic photo used for illustration purposes only  
CASE STYLE: LW1611

### The Big Deal

- Low-profile shielded package
- Low passband Insertion Loss
- Excellent Rejection

### Product Overview

CBP-1400E+ is a ceramic-coaxial-resonator based bandpass filter in a shielded package (size of 0.638" x 0.434" x 0.105") fabricated using SMT technology. This filter offers outstanding close in rejection, low insertion loss and high power handling for use in broadband, fixed wireless, image rejection and point-to-point radio. In addition, this model uses low profile resonators which gives very good size advantage.

### Key Features

Feature	Advantages
High Selectivity	The CBP-1400E+ filter incorporates High-Q ceramic resonators that enables sharp rejection near passband.
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-1400E+ has been qualified over wide range of thermal, mechanical and environmental conditions including withstanding the stress of extensive solder reflow cycles.

#### Notes

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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](http://www.minicircuits.com/MCLStore/terms.jsp)



# Surface Mount Bandpass Filter

## CBP-1400E+

50Ω 1320 to 1480 MHz



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CASE STYLE: LW1611

### Features

- Low Insertion loss
- Minimal Insertion loss variation over operating temperature
- Low-profile shielded package

### Applications

- Wireless medical telemetry
- Satellite digital audio broad casting
- Aeronautical radio navigation

### Electrical Specifications at 25°C

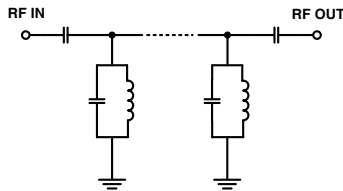
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	1400	—	MHz
	Insertion Loss	F1-F2	1320-1480	1.7	3	dB
	VSWR	F1-F2	1320-1480	1.5	2.3	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1150	20	42	dB
	VSWR	DC-F3	DC-1150	—	36	:1
Stop Band, Upper	Insertion Loss	F4-F5	1600-2400	20	31	dB
	VSWR	F4-F5	1600-2400	—	20	:1

### Maximum Ratings

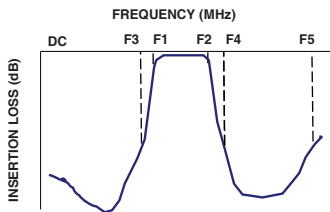
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input*	12.6W max. at 25°C

\* Derate linearly to 6.5W at 85°C  
Permanent damage may occur if any of these limits are exceeded.

### Functional Schematic



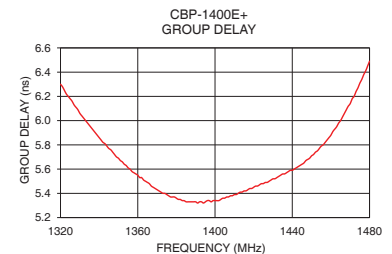
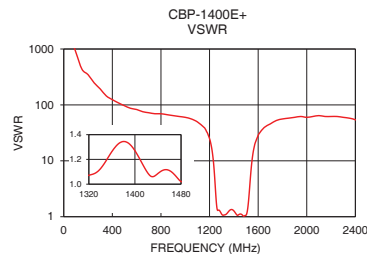
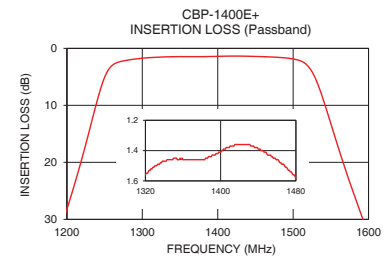
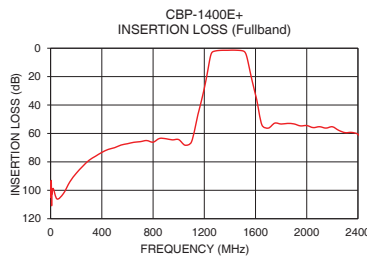
### Typical Frequency Response



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	99.11	1737.18	1320	6.30
800	66.14	69.49	1330	6.06
1150	46.82	40.41	1340	5.86
1160	43.30	38.61	1350	5.69
1180	36.06	32.18	1360	5.55
1200	28.23	24.83	1370	5.43
1220	19.30	15.67	1380	5.36
1240	9.28	5.85	1390	5.33
1320	1.56	1.07	1395	5.33
1400	1.41	1.27	1400	5.34
1480	1.58	1.02	1405	5.36
1530	5.42	3.36	1410	5.39
1540	9.03	6.28	1420	5.45
1550	13.22	10.37	1425	5.48
1575	23.49	20.70	1430	5.52
1600	32.78	28.49	1440	5.59
1610	36.45	31.03	1450	5.71
1650	54.03	39.49	1460	5.88
2000	54.44	59.91	1470	6.14
2400	60.59	54.29	1480	6.49

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



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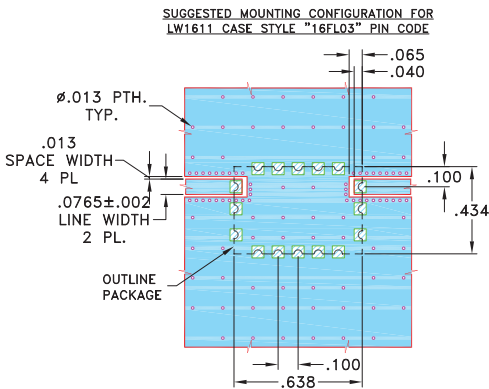
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REV.B  
M174392  
CBP-1400E+  
EDU1470/2  
URJ  
200812  
Page 2 of 3

## Pad Connections

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

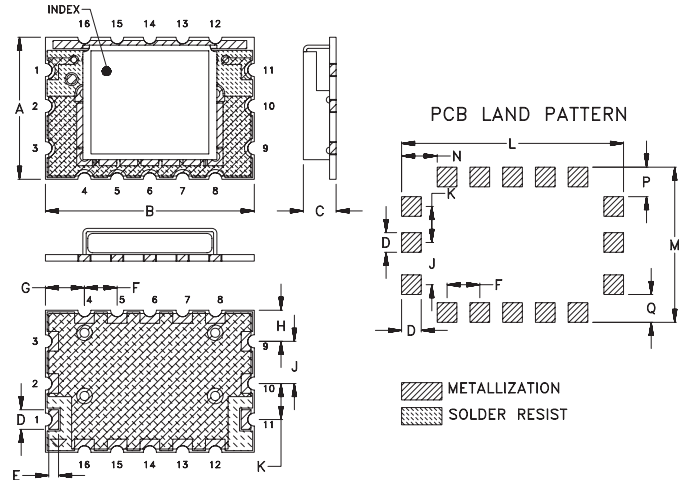
**Demo Board MCL P/N: TB-611+**  
**Suggested PCB Layout (PL-338)**



- NOTES:
- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .060"±.004". COPPER: 1/2 OZ. EACH SIDE.  
 FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  - 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



## Outline Dimensions ( inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M
.434	.638	.120	.060	.030	.100	.119	.095	.129	.110	.678	.474
11.02	16.21	3.05	1.52	0.76	2.54	3.02	2.41	3.28	2.79	17.22	12.04
N	P	Q	wt,								
.109	.090	.085	grams								
2.77	2.29	2.16	0.8								

*Note: Please refer to case style drawing for details*

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