Surface Mount

Bandpass Filter

CBP-1748C+

50Ω 1710 to 1785 MHz

CASE STYLE: MP1766

The Big Deal

- Narrow bandwidth
- Excellent Rejection
- High power handling
- Miniature shielded package

Product Overview

CBP-1748C+ 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 wireless networks and space applications

Key Features

Feature	Advantages
High Selectivity	The CBP-1748C+ 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-1748C+ 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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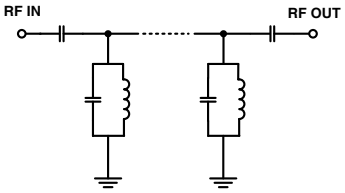
Features

- Narrow bandwidth
- Excellent rejection
- High selectivity
- High power handling
- Miniature shielded package

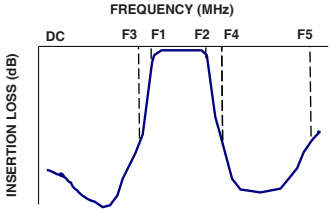
Applications

- Wireless 3G networks
- Space operation and space research
- CDMA

Functional Schematic



Typical Frequency Response



+RoHS Compliant

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

Electrical Specifications at 25°C

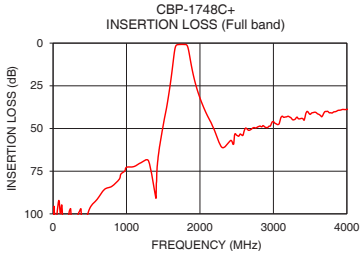
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	1748	—	MHz
	Insertion Loss	F1-F2	1710-1785	—	1.10	3.00	dB
	VSWR	F1-F2	1710-1785	—	1.67	2.32	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1580	20	28	—	dB
	VSWR	DC-F3	DC-1580	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	1960-4000	20	26	—	dB
	VSWR	F4-F5	1960-4000	—	20	—	:1

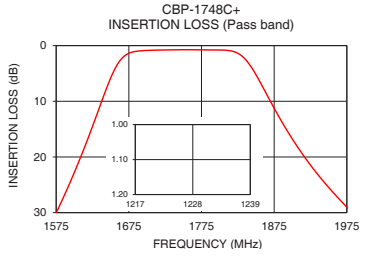
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	10W

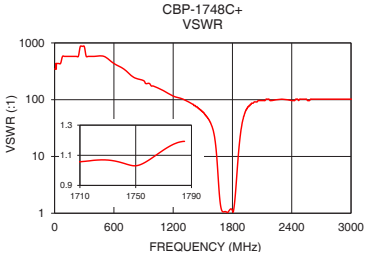
Permanent damage may occur if any of these limits are exceeded.

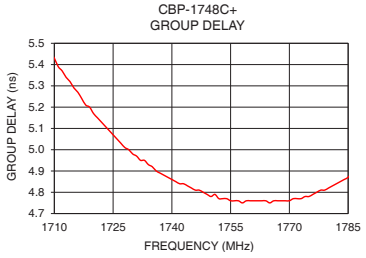
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	97.92	347.44	1710	5.43
800	83.89	248.17	1714	5.32
1500	48.02	59.91	1718	5.21
1574	30.34	40.41	1722	5.13
1580	28.66	38.61	1726	5.05
1606	20.88	28.49	1730	4.98
1636	10.58	12.44	1734	4.93
1660	3.22	3.22	1738	4.88
1680	1.16	1.36	1742	4.84
1710	0.82	1.06	1748	4.80
1748	0.74	1.03	1750	4.78
1785	0.78	1.19	1754	4.77
1823	1.25	1.62	1758	4.75
1840	3.21	3.73	1762	4.76
1870	10.05	16.72	1766	4.76
1920	20.58	54.29	1770	4.76
1960	26.93	75.53	1774	4.78
1984	30.15	82.73	1778	4.81
2400	57.76	96.51	1782	4.84
4000	38.80	51.10	1785	4.87









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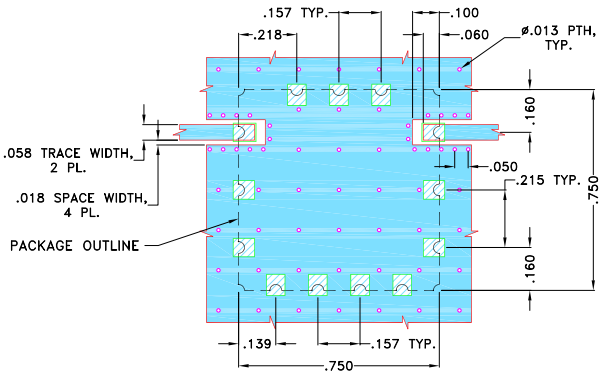
Pad Connections

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)



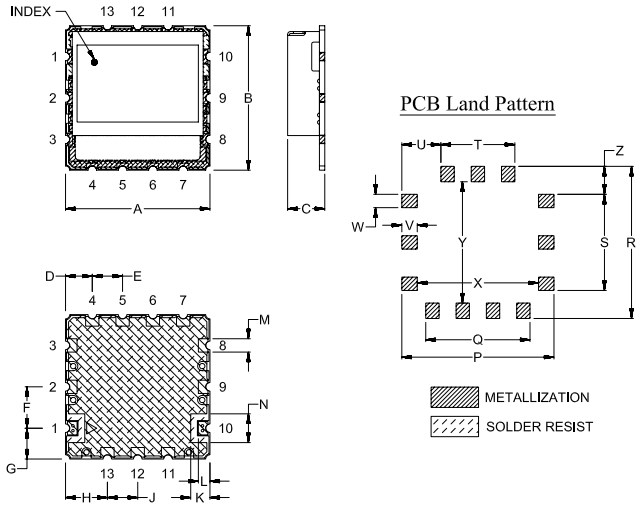
NOTES:

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



Outline Dimensions (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

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