Surface Mount

Bandpass Filter

CBP-770C+

50Ω 760 to 780 MHz

CASE STYLE: MP1766

The Big Deal

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

Product Overview

CBP-770C+ 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 control systems.

Key Features

Feature	Advantages
High Selectivity	The CBP-770C+ 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-770C+ 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

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- Excellent rejection
- High selectivity
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Applications

- Wireless control system (WCS)
- Amateur radio bands
- Mobile test system
- Public safety services

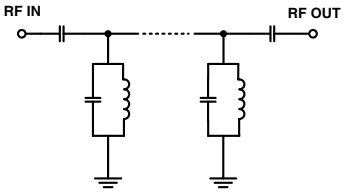
Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	770	—	MHz
	Insertion Loss	F1-F2	760-780	—	1.0	2.0	dB
	VSWR	F1-F2	760-780	—	1.24	2.1	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-705	20	29	—	dB
	VSWR	DC-F3	DC-705	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	840-1650	20	27	—	dB
	VSWR	F4-F5	840-1650	—	20	—	:1

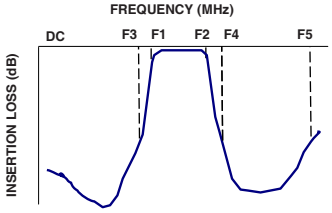
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	10W

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

Functional Schematic



Typical Frequency Response



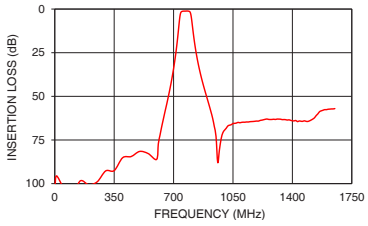
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	102.23	29634.56	760	14.99
500	81.57	178.11	762	14.67
650	58.48	84.53	763	14.53
705	30.93	42.72	764	14.40
719	20.69	26.55	765	14.30
730	10.65	10.80	766	14.19
739	3.27	2.60	767	14.11
745	1.64	1.31	768	14.05
760	1.19	1.19	769	14.01
770	1.18	1.31	770	13.98
780	1.13	1.10	771	13.97
795	1.50	1.18	772	13.97
802	3.34	2.82	773	13.99
810	8.98	10.18	774	14.02
825	20.27	39.30	775	14.06
840	28.90	63.63	776	14.13
843	30.40	67.60	777	14.19
1000	69.42	81.18	778	14.26
1400	64.00	56.00	779	14.35
1650	57.04	49.83	780	14.44

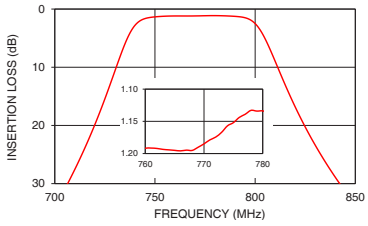
+RoHS Compliant

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

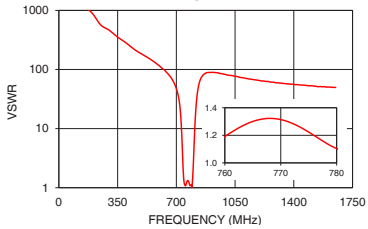
CBP-770C+
INSERTION LOSS (Full band)



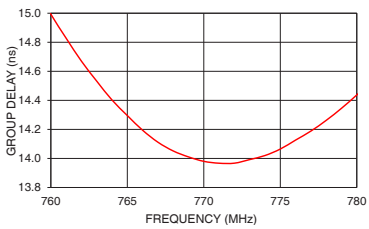
CBP-770C+
INSERTION LOSS (Pass band)



CBP-770C+
VSWR



CBP-770C+
GROUP DELAY



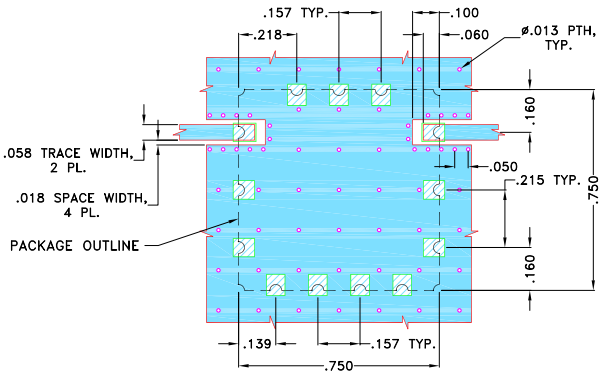
Notes

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

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



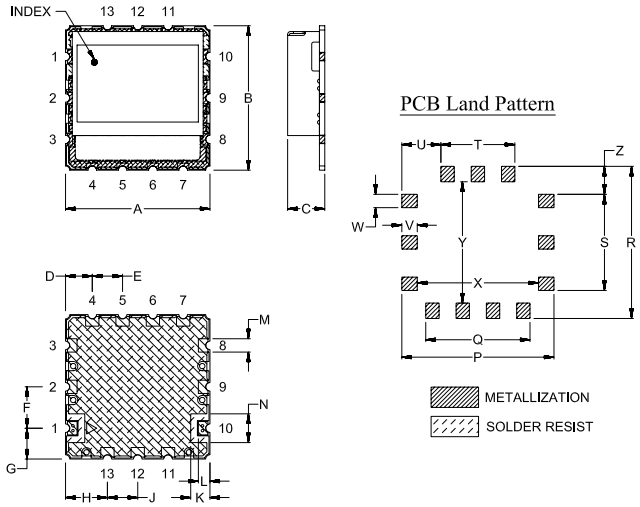
NOTES:

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