

Surface Mount Bandpass Filter

CBP-1820F+

50Ω 1680 to 1960 MHz

The Big Deal

- High Q
- Good selectivity
- Low VSWR
- Small shielded package



CASE STYLE: KV1710

Product Overview

CBP-1820F+ is a coaxial-ceramic-resonator based bandpass filter in a shielded package fabricated using SMT technology. This filter has low insertion loss with high rejection and low VSWR for use in L-band application, International mobile telecommunications (IMT) and public cellular network.

Key Features

Feature	Advantages
High Q	The CBP-1820F+ filter incorporates High-Q ceramic resonators that enables low insertion loss.
Good selectivity	This filter designed with six pole. So this providing good selectivity in the stopband performance.
Low VSWR	This filter maintains typical VSWR over a passband frequency range.
Rugged construction	The CBP-1820F+ has been qualified over wide range of thermal, mechanical and environmental conditions including withstanding the stress of extensive solder reflow cycles.

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



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Features

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Applications

- L-band application
- International mobile telecommunications (IMT)
- Public cellular network

Electrical Specifications at 25°C

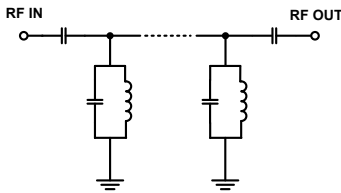
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	-	-	1820	-	MHz	
	Insertion Loss	F1-F2	1680-1960	-	1.4	2.5	dB
	VSWR	F1-F2	1680-1960	-	1.5	2.3	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1510	20	33	-	dB
	VSWR	DC-F3	DC-1510	-	20	-	:1
Stop Band, Upper	Insertion Loss	F4-F5	2170-3000	20	29.5	-	dB
	VSWR	F4-F5	2170-3000	-	20	-	:1

Maximum Ratings

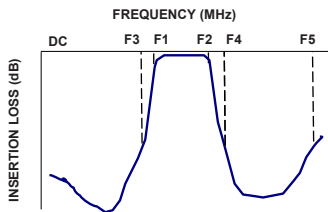
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	1 W max.

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

Functional Schematic



Typical Frequency Response

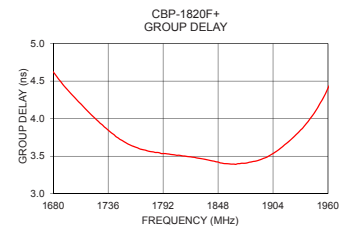
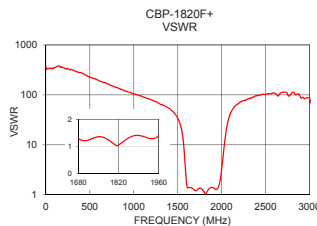
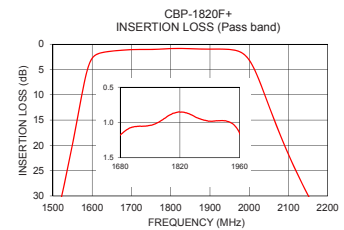
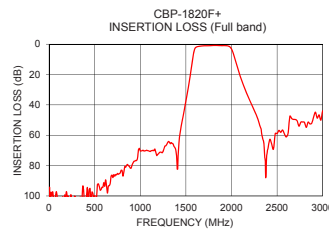


Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	99.58	358.95	1680	4.62
100	116.68	353.06	1690	4.45
500	99.80	228.78	1700	4.31
1000	70.32	105.13	1720	4.04
1510	34.24	31.25	1740	3.80
1520	30.83	28.54	1760	3.64
1550	19.74	17.39	1780	3.56
1580	7.58	4.99	1800	3.52
1598	3.03	1.80	1820	3.49
1680	1.18	1.28	1840	3.44
1820	0.85	1.05	1860	3.40
1960	1.15	1.40	1870	3.40
2000	3.16	3.35	1880	3.42
2040	10.12	14.27	1890	3.45
2090	20.03	38.88	1900	3.50
2155	30.65	60.85	1910	3.59
2170	32.86	63.47	1920	3.69
2600	61.14	107.56	1930	3.82
2800	51.54	111.64	1940	3.97
3000	43.97	84.15	1960	4.41

+RoHS Compliant

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



Notes

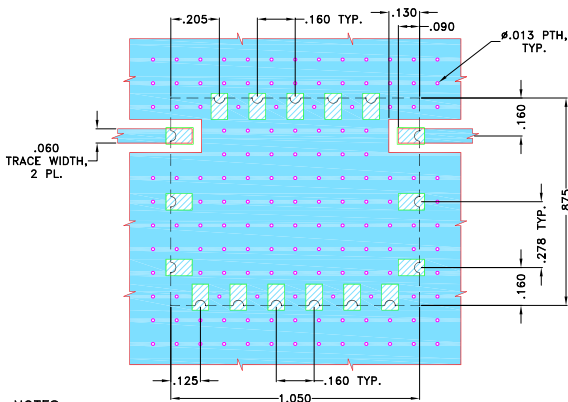
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Pad Connections

INPUT	1
OUTPUT	12
GROUND	2,3,4,5,6,7,8,9,10,11,13,14,15,16,17

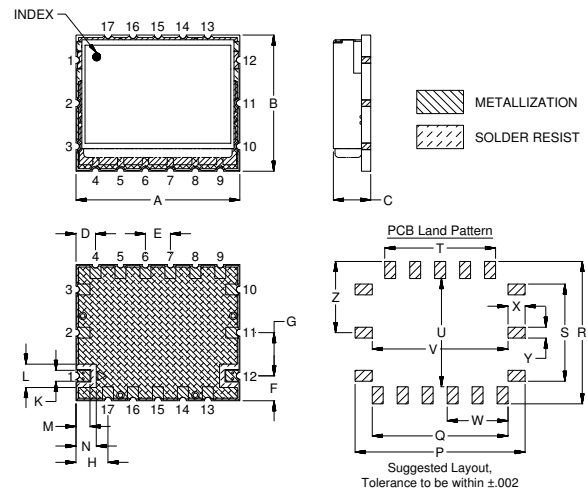
Demo Board MCL P/N: TB-693+
Suggested PCB Layout (PL-378)



- NOTES:
- 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.
 - 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
1.050	.875	.239	.125	.160	.160	.278	.205	.160	.070	.150	.090	.130
26.67	22.23	6.07	3.18	4.06	4.06	7.06	5.21	4.06	1.78	3.81	2.29	3.30
P	Q	R	S	T	U	V	W	X	Y	Z	Wt.	
1.090	.870	.915	.625	.710	.695	.870	.390	.110	.070	.458	grams	
27.69	22.10	23.24	15.88	18.03	17.65	22.10	9.91	2.79	1.78	11.63	8.5	

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