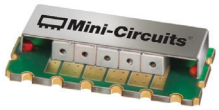
Surface Mount

Bandpass Filter

CBP-2400A+

50Ω 2200 to 2600 MHz



Generic photo used for illustration purposes only
CASE STYLE: KU1513

The Big Deal

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

Product Overview

CBP-2400A+ 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 mobile satellite, ISM and amateur radio

Key Features

Feature	Advantages
High Selectivity	The CBP-2400A+ 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.
Small size, 0.550" x 1.040" x 0.185"	The small surface mount package enables the CBP-2400A+ to be used in compact designs.
Rugged construction	The CBP-2400A+ 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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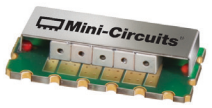


Generic photo used for illustration purposes only
CASE STYLE: KU1513

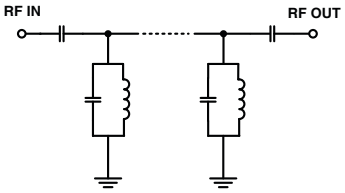
Features

- Low Insertion loss
- High selectivity
- Miniature shielded package

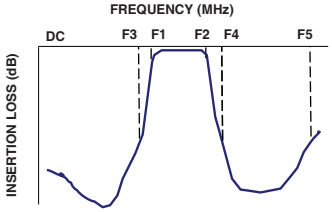
Applications

- Defense systems
- ISM
- Mobile satellite
- Amateur radio

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	—	—	—	2400	—	MHz
	Insertion Loss	F1-F2	2200-2600	—	1.1	2	dB
	VSWR	F1-F2	2200-2600	—	1.6	2.32	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1780	20	31	—	dB
	VSWR	DC-F3	DC-1780	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	3480-4200	20	31	—	dB
	VSWR	F4-F5	3480-4200	—	20	—	:1

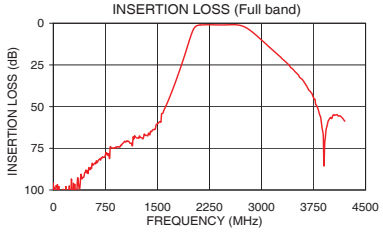
Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	5W Max.

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

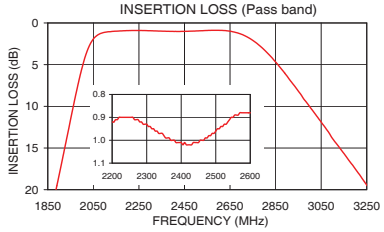
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	100.12	1737.18	2200	2.02
750	78.92	115.81	2220	1.95
1500	60.32	59.91	2250	1.86
1780	32.95	38.61	2300	1.73
1800	30.59	36.20	2350	1.63
1880	20.80	25.94	2400	1.55
1915	16.25	19.98	2420	1.52
1990	6.52	6.39	2440	1.51
2020	3.59	3.33	2450	1.50
2060	1.63	1.60	2460	1.49
2200	0.92	1.03	2480	1.49
2400	1.01	1.47	2500	1.48
2600	0.88	1.04	2510	1.48
2800	3.22	3.67	2520	1.48
2900	6.37	7.76	2530	1.49
3100	13.87	21.73	2540	1.49
3280	20.46	32.79	2550	1.49
3480	28.90	41.37	2560	1.50
3510	30.15	43.44	2580	1.51
4200	58.74	40.41	2600	1.53

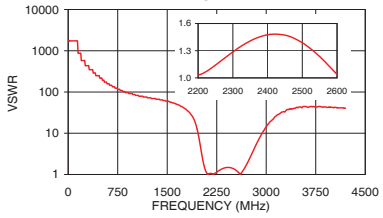
CBP-2400A+
INSERTION LOSS (Full band)



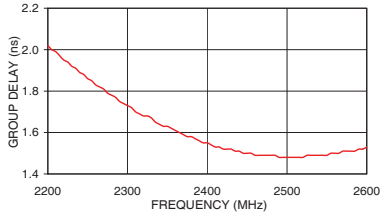
CBP-2400A+
INSERTION LOSS (Pass band)



CBP-2400A+
VSWR



CBP-2400A+
GROUP DELAY

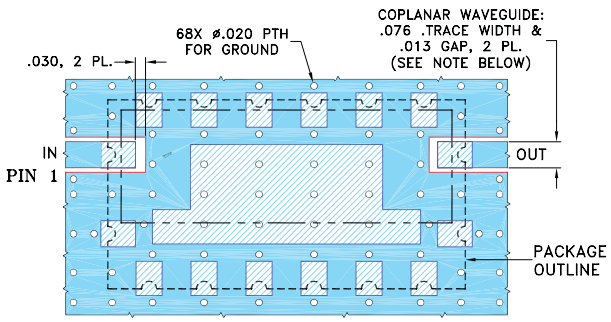


Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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 to 9, 11 to 16

Demo Board MCL P/N: TB-578+
Suggested PCB Layout (PL-331)

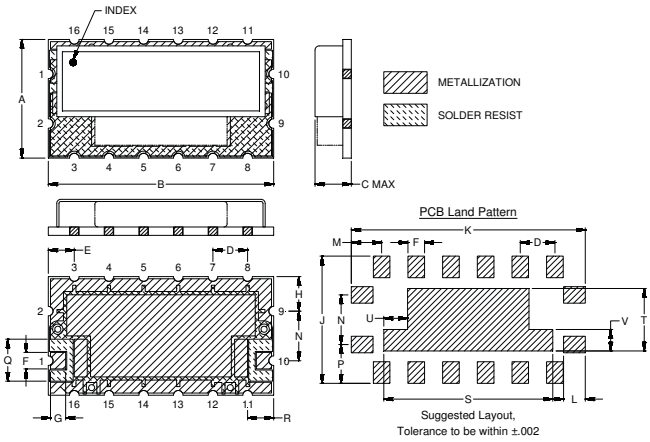


NOTE: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .060" ± .004"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L
.550	**1.040**	**.185**	**.160**	**.120**	**.077**	**.070**	**.160**	**.590**	**1.080**	**.100**
13.97	26.24	4.70	4.06	3.05	1.96	1.78	4.06	14.99	27.43	2.54

M	N	P	Q	R	S	T	U	V	Wt.
.140	**.230**	**.180**	**.195**	**.115**	**.780**	**.290**	**.110**	**.100**	grams
3.56	5.84	4.57	4.95	2.92	19.81	7.36	2.79	2.54	2.6

Note: Please refer to case style drawing for details.