



Mini-Circuits

CERAMIC RESONATOR SURFACE MOUNT

Bandpass Filter

CBP2-1300BV+

50Ω

1200 to 1400 MHz

KEY FEATURES

- Good Insertion Loss, 2.1 dB Typ.
- High Rejection, 65 dB Typ.
- Low-Profile Shielded Package

APPLICATIONS

- 5G Applications
- Test and Measurements
- Wireless Communication

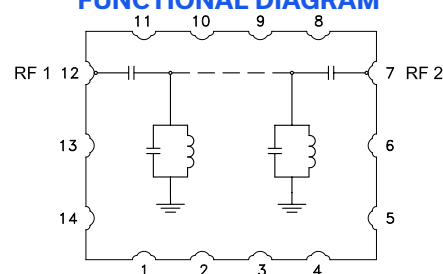
PRODUCT OVERVIEW

All our Surface Mount Ceramic Resonator filters are built with rugged construction, qualified to withstand multiple demanding reflow cycles. Excellent repeatability across units is achieved through precise tuning and process.



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM

ELECTRICAL SPECIFICATIONS^{1,2,3} AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	1300	—	MHz
	Insertion Loss	F1-F2	1200 - 1400	—	2.1	3	dB
	Return Loss	F1-F2	1200 - 1400	10	15.7	—	dB
Stopband, Lower	Rejection	DC-F3	DC - 1000	55	65	—	dB
		F3-F4	1000 - 1090	20	27	—	
Stopband, Upper	Rejection	F5-F6	1515 - 1680	20	28	—	dB
		F6-F7	1680 - 3900	—	35	—	
		F7-F8	3900 - 20000	—	20	—	

1. Tested in Evaluation Board P/N TB-CBP2-1300BV+.

2. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.

3. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

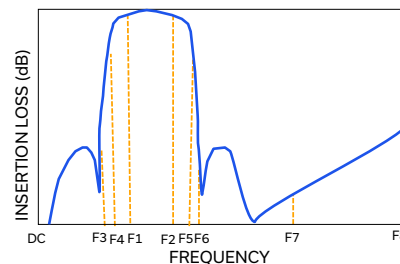
ABSOLUTE MAXIMUM RATINGS⁴

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power ⁵	6 W at +25°C

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

5. Power rating applies only to signals within the passband.

TYPICAL FREQUENCY RESPONSE AT +25°C



REV. A
ECO-025443
CBP2-1300BV+
EDU4238
URJ
250519





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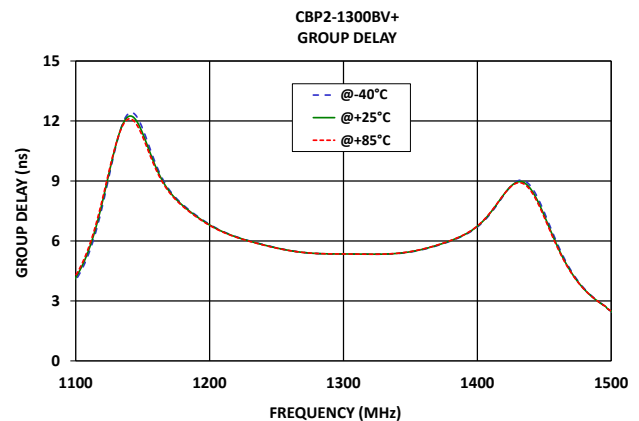
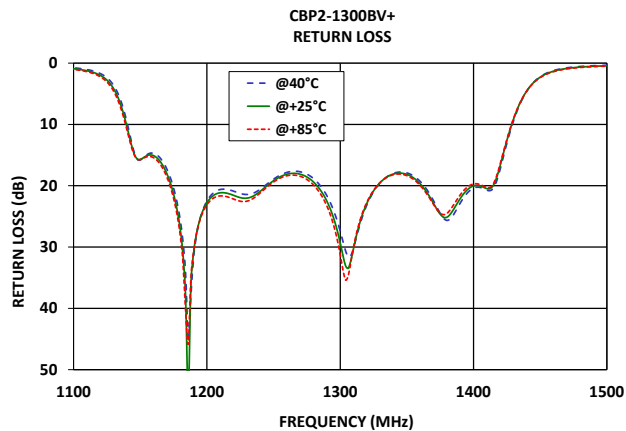
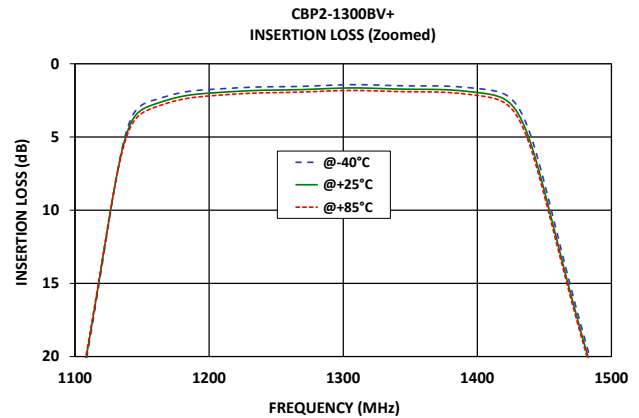
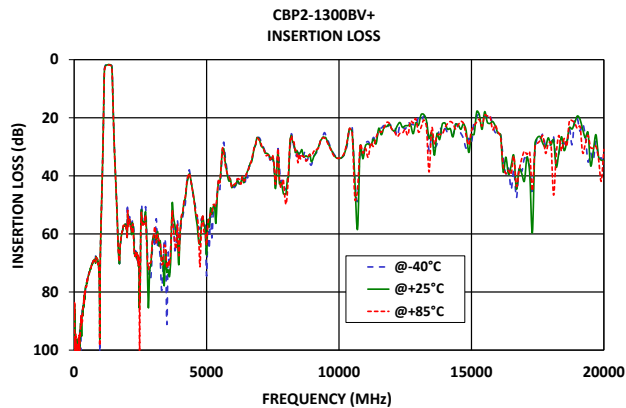
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TYPICAL PERFORMANCE GRAPHS





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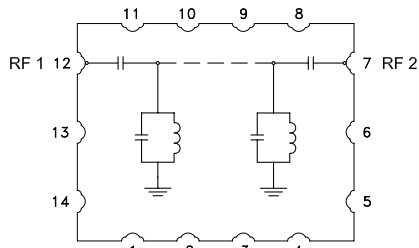
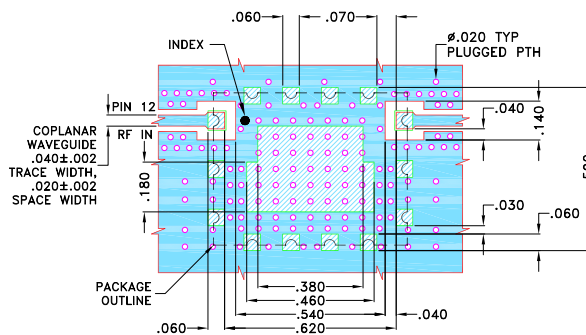


Figure 1. CBP2-1300BV+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1 ²	12	Connects to RF Input Port
RF2 ²	7	Connects to RF Output Port
GROUND	1-6,8-11,13,14	Connects to Ground on PCB, (See drawing PL-722)
NC	—	No connection, not used internally. See drawing PL-722 for connection to PCB

SUGGESTED PCB LAYOUT (PL-722)

SUGGESTED MOUNTING CONFIGURATION FOR
WA3176-1 CASE STYLE

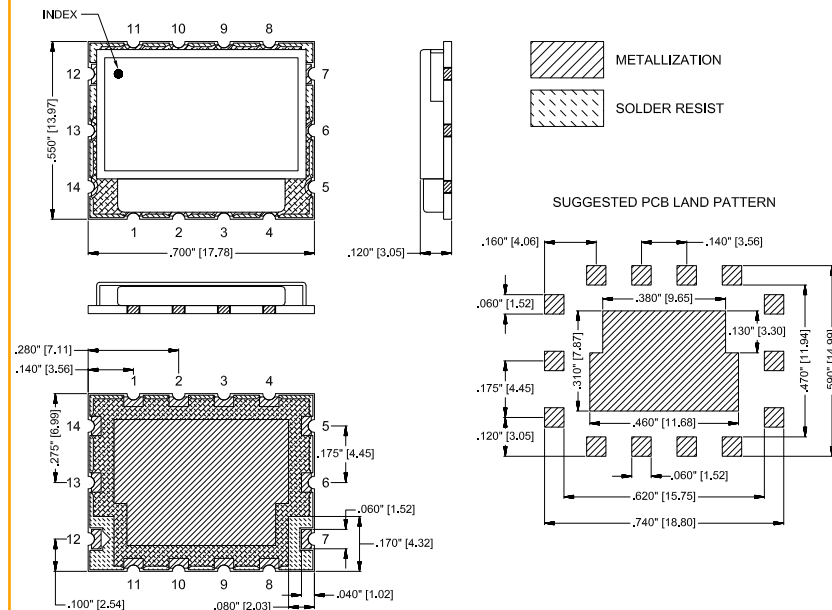
NOTES:

1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .020±.0015. COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP 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

Figure 2. Suggested PCB Layout PL-722

CASE STYLE DRAWING



Weight: 1.3 gram

Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015

PRODUCT MARKING*: CBP2-1300BV

*Marking may contain other features or characters for internal lot control.



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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD.

[CLICK HERE](#)

Performance Data and Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	WA3176-1 Lead Finish: Gold over Nickel Plate
RoHS Status	Compliant
Tape and Reel	TR-F122
Suggested Layout for PCB Design	PL-722
Evaluation Board	TB-CBP2-1300BV+
	Gerber File
Environmental Rating	ENV117

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-Circuits' 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/terms/viewterm.html

