



Mini-Circuits

CERAMIC RESONATOR SURFACE MOUNT

Bandpass Filter

CBP2-1600AN+

50Ω 1580 to 1620 MHz

KEY FEATURES

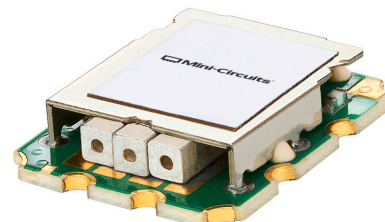
- High Rejection, 60 dB Typ.
- Fractional Bandwidth : 2.5%
- Excellent Power Handling: 5 Watts
- Low Profile Shielded Package, 10x12mm

APPLICATIONS

- Test and Measurement
- Radio Astronomy

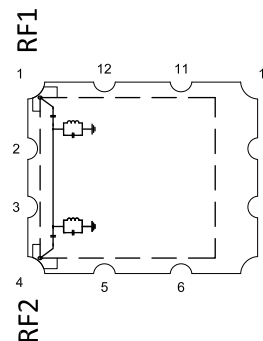
PRODUCT OVERVIEW

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 control.



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM



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

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	1600	—	MHz
	Insertion Loss	F1-F2	1580 - 1620	—	2.6	3.3	dB
	Return Loss	F1-F2	1580 - 1620	10	15	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 1000	50	60	—	dB
		F3-F4	1000 - 1495	20	26	—	
Stop Band, Upper	Rejection	F5-F6	1715 - 1805	20	29	—	dB
		F6-F7	1805 - 2700	—	35	—	

1. Tested in Evaluation Board P/N TB-CBP2-1600AN+.

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

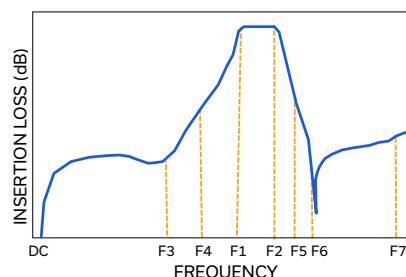
ABSOLUTE MAXIMUM RATINGS³

Parameter	Ratings
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C
Input Power ⁴	5 W at 25°C

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

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

TYPICAL FREQUENCY RESPONSE



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 REV. A
 ECO-018838
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 EDU4563
 URJ
 230810

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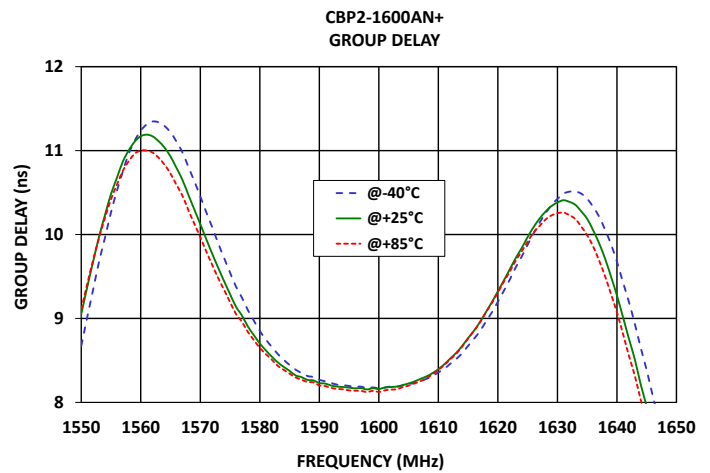
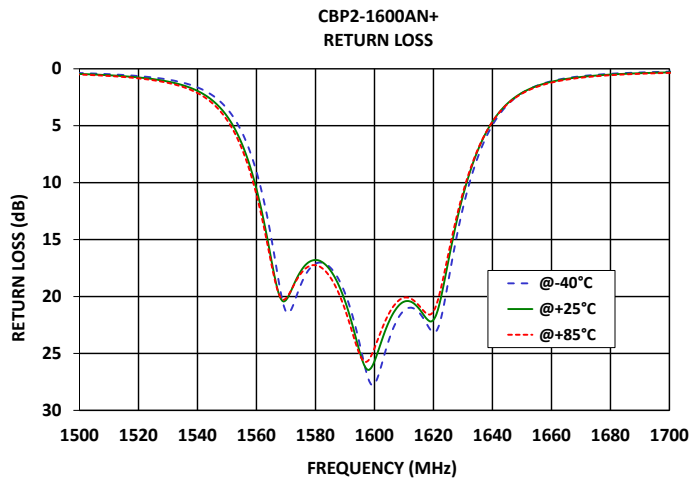
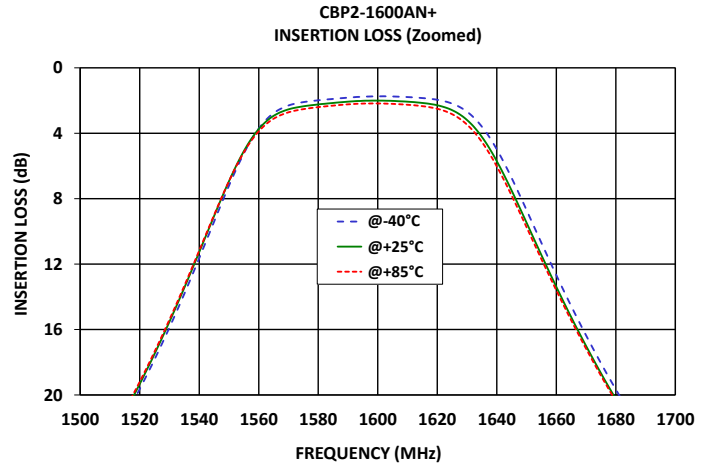
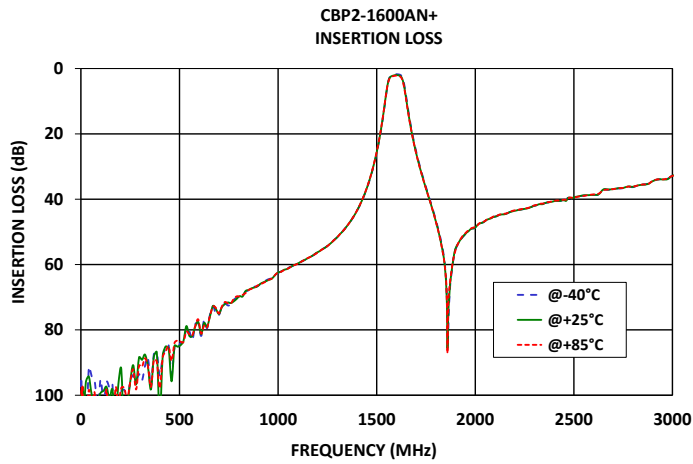
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TYPICAL PERFORMANCE GRAPHS





FUNCTIONAL DIAGRAM

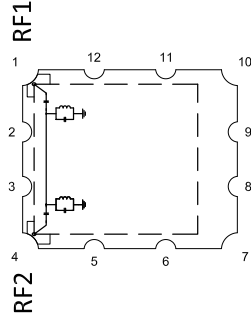
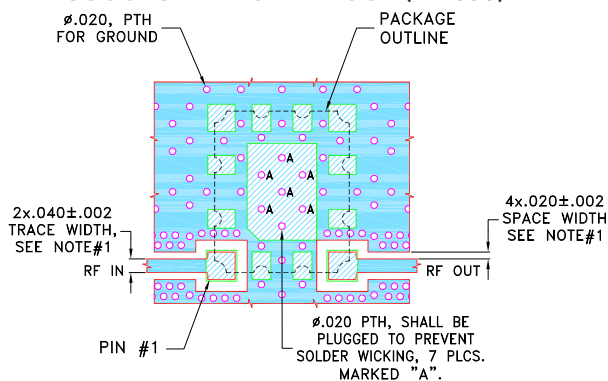


Figure 1. CBP2-1600AN+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1 ^(Note 2)	1	Connects to RF Input Port
RF2 ^(Note 2)	4	Connects to RF Output Port
GROUND	2,3,5,6,7,8,9,10,11,12	Connects to Ground on PCB, (See drawing PL-630)
NC	—	No connection, not used internally. See drawing PL-630 for connection to PCB

SUGGESTED PCB LAYOUT (PL-630)



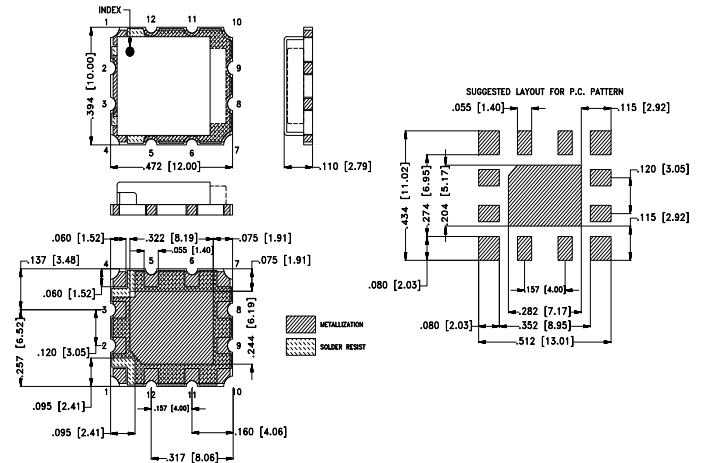
NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .020"±.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

Figure 2. Suggested PCB Layout PL-630

CASE STYLE DRAWING



Weight: 6 grams

Dimensions are in inches[mm]. Tolerance:2PL ±.03; 3PL ±.015

PRODUCT MARKING*: CBP2-1600AN

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



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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASH BOARD.

[CLICK HERE](#)

Performance Data and Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	TJ2826-1 Lead Finish: Electroless Nickel Immersion Gold
RoHS Status	Compliant
Tape and Reel	TR-F002
Suggested Layout for PCB Design	98-PL-630
Evaluation Board	TB-CBP2-1600AN+
	Gerber File
Environmental Rating	ENV54

NOTES

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- 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



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