CERAMIC RESONATOR SURFACE MOUNT

Bandpass Filter

CBP3-1870CB+

50Ω 1820 to 1920 MHz

KEY FEATURES

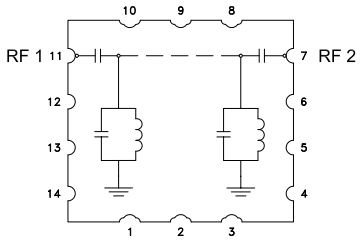
- Good Insertion Loss, 1.7 dB Typ.
- High Rejection, 70 dB Typ.
- Smaller Package

Generic photo used for illustration purposes only

APPLICATIONS

- 5G Base Station

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

All our coaxial-ceramic resonator filters are built with rugged contruction, qualified to withstand multiple demanding reflow cycles. Excellent repeatability across units is achieved through precise tunning and process control.

ELECTRICAL SPECIFICATIONS[1,2,3] AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	1870	—	MHz
	Insertion Loss	F1-F2	1820 - 1920	—	1.7	2.2	dB
	Return Loss	F1-F2	1820 - 1920	10	14	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 1400	60	70	—	dB
		F3-F4	1400 - 1724	20	29	—	
Stop Band, Upper	Rejection	F5-F6	2036 - 2280	20	30	—	dB
		F6-F7	2280 - 2900	43	55	—	

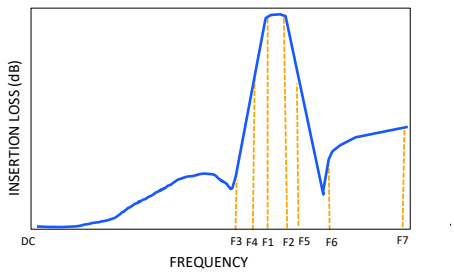
1. Tested in Evaluation Board P/N TB-CBP3-1870CB+.
2. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.
3. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

ABSOLUTE MAXIMUM RATINGS[4]

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power[5]	10 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. Power rating above +25°C operating temperature decreases linearly to 2 W at +85°C.

TYPICAL FREQUENCY RESPONSE AT +25°C



REV. OR
ECO-026012
EDU5074
CBP3-1870CB+
URJ
25062

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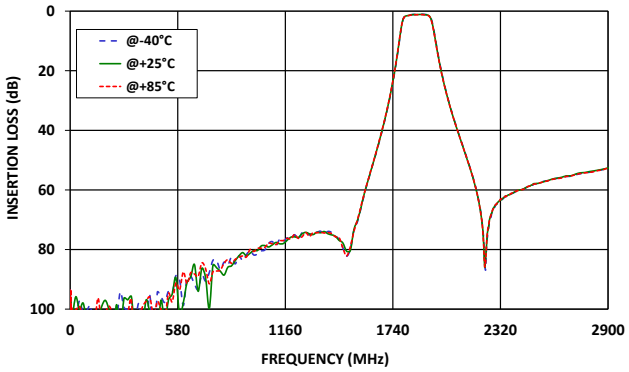
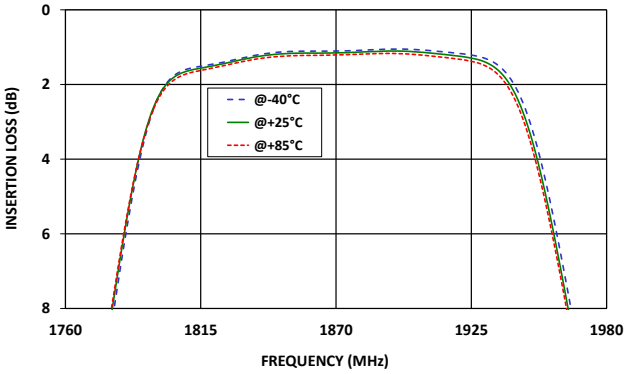
TYPICAL PERFORMANCE GRAPHS

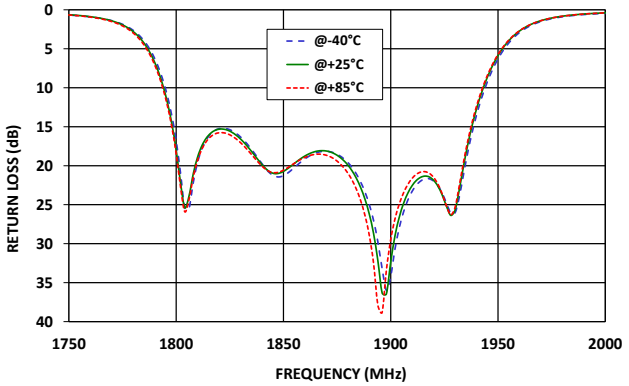
CBP3-1870CB+
INSERTION LOSS



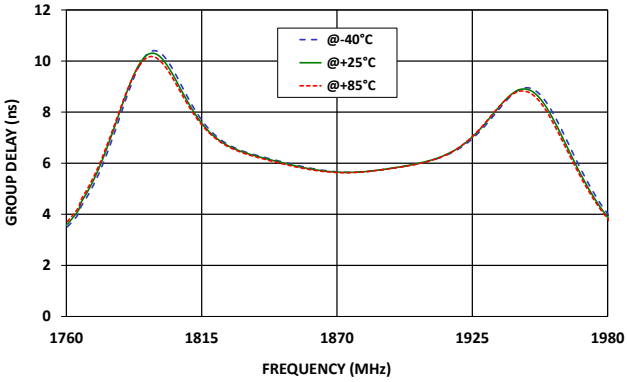
CBP3-1870CB+
INSERTION LOSS (Zoomed)



CBP3-1870CB+
RETURN LOSS (Zoomed)



CBP3-1870CB+
GROUP DELAY



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FUNCTIONAL DIAGRAM

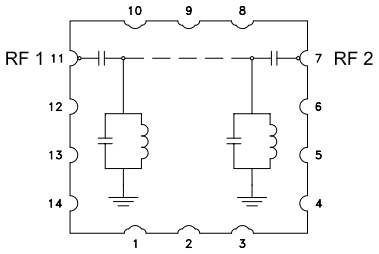


Figure 1. CBP3-1870CB+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1[2]	11	Connects to RF Input Port
RF2[2]	7	Connects to RF Output Port
GROUND	1-6, 8-10,12-14	Connects to Ground on PCB, (See drawing PL-818)
NC	-	No connection, not used internally. See drawing PL-818 for connection to PCB

SUGGESTED PCB LAYOUT (PL-818)

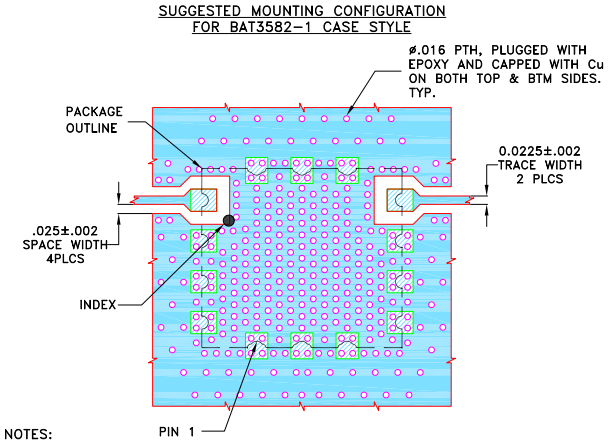
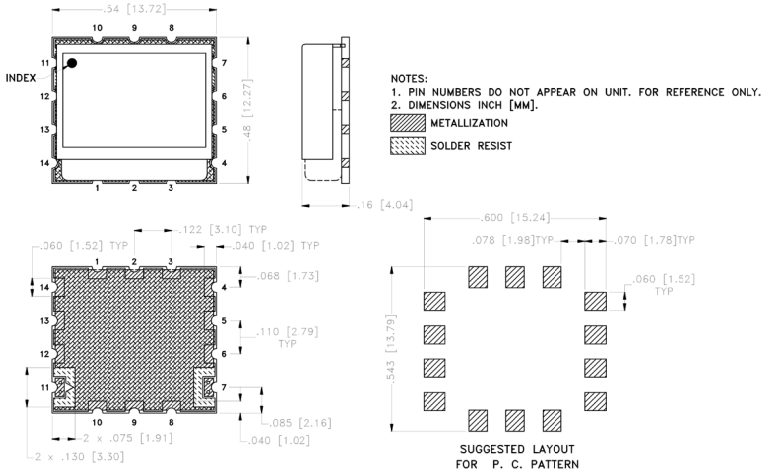


Figure 2. Suggested PCB Layout PL-818

CASE STYLE DRAWING



Weight: 1.5 grams
Dimensions are in inches (mm). Tolerances: 2Pl. ± .015; 3Pl. ± .003

PRODUCT MARKING*: CBP3-1870CB

*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	BAT3582-1 Lead Finish: Gold over Nickel Plate
RoHS Status	Compliant
Tape and Reel	TR-F014
Suggested Layout for PCB Design	PL-654
Evaluation Board	TB-CBP3-1870CB+
	Gerber File
Environmental Rating	ENV54

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