



Mini-Circuits

CERAMIC RESONATOR SURFACE MOUNT

Band Pass Filter

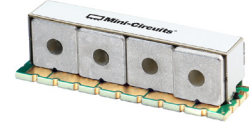
CBP12-2003CL+

50Ω

1980 to 2025 MHz

THE BIG DEAL

- Narrow Band Design with Fast Roll-off
- High Rejection, 70 dB Typ.
- Low Insertion Loss, 1.1 dB Typ.

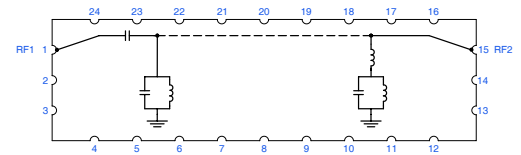


Generic photo used for illustration purposes only

APPLICATIONS

- Satcom
- Wireless Communication

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

All our coaxial-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.

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

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	—	2002.5	—	MHz
	Insertion Loss	F1-F2	1980 - 2025	—	1.1	1.8	dB
	Return Loss	F1-F2	1980 - 2025	10	15	—	dB
Stopband, Lower	Rejection	DC-F3	DC - 1550	60	70	—	dB
		F3-F4	1550 - 1850	20	29	—	
Stopband, Upper	Rejection	F5-F6	2125 - 2350	20	26	—	dB
		F6-F7	2350 - 2800	40	50	—	

1. Tested in Evaluation Board P/N TB-CBP122003CL+.

2. 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.

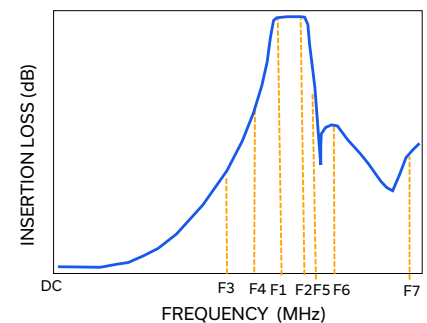
ABSOLUTE MAXIMUM RATINGS³

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power ⁴	15 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. Power rating above +25°C operating temperature decreases linearly to 1 W at +85°C.

TYPICAL FREQUENCY RESPONSE

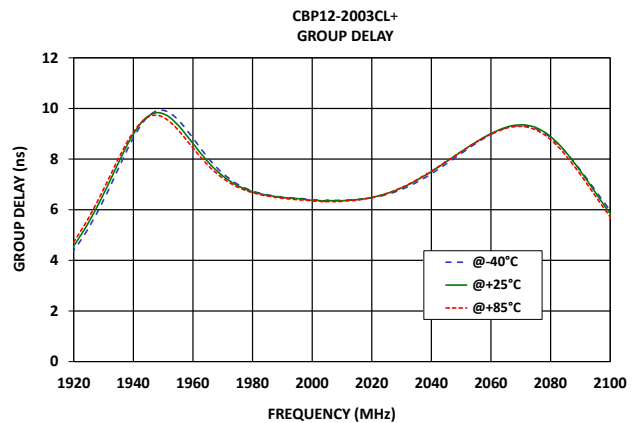
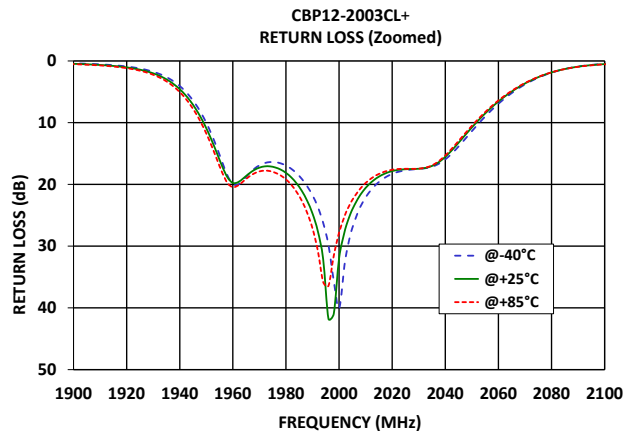
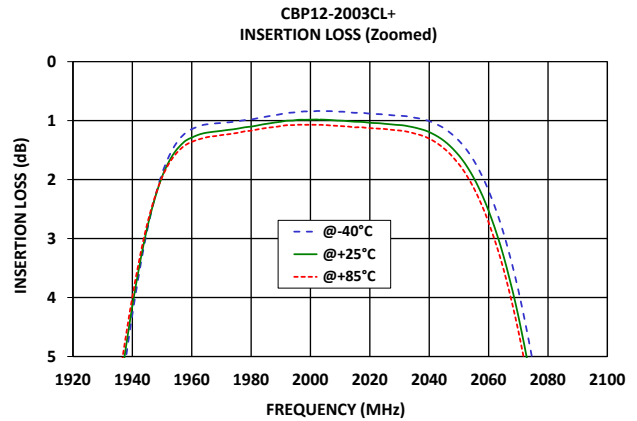
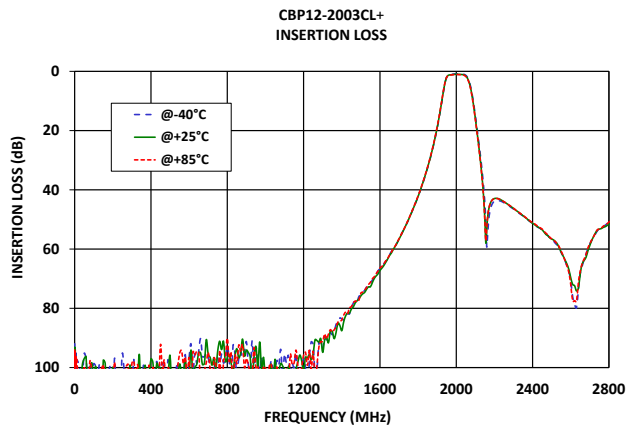


REV. OR
ECO-027850
EDU5207
CBP12-2003CL+
URJ
251120





TYPICAL PERFORMANCE GRAPHS





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The diagram shows a 24-pin connector layout. Pins 1 and 15 are labeled RF1 and RF2 respectively. Pins 2, 3, 13, and 14 are grouped together on the right. The circuit includes two capacitors connected to pins 23 and 17, and two inductors connected to pins 22 and 16. A dashed line indicates a connection between pins 1 and 15.

PAD DESCRIPTION

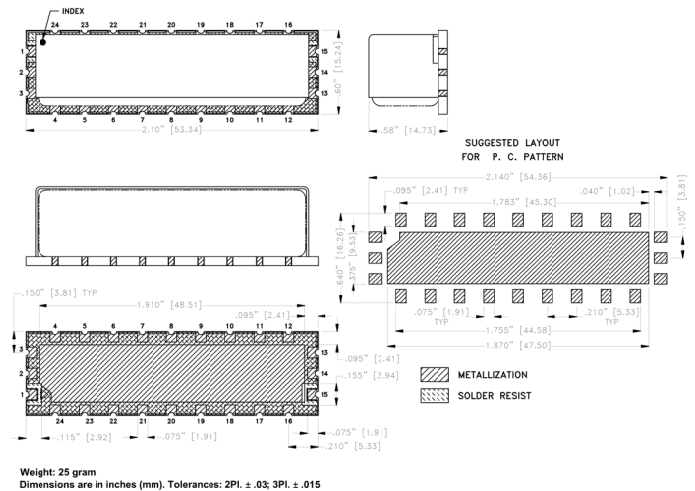
Function	Pad Number	Description
RF1	1	Connects to RF Input Port
RF2	15	Connects to RF Output Port
GROUND	2-14, 16-24	Connects to Ground on PCB, (See drawing PL-840)

1. TRACE WIDTH ARE SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .010"±.001"
COPPER: 1/2 Oz EACH SIDE. FOR OTHER MATERIAL 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 SOLDERMASK

CASE STYLE DRAWING



*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 & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	BBE3695 Lead Finish: Gold over Nickel Plate
RoHS/REACH Status	Compliant
Tape and Reel	-
Suggested Layout for PCB Design	PL-840
Evaluation Board	TB-CBP122003CL+ Gerber File
Environmental Rating	ENV115
MSL Level	MSL1

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

