CERAMIC RESONATOR SURFACE MOUNT

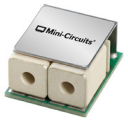
Band Pass Filter

CBP3-2491CK+

50Ω 2483.5 to 2500 MHz

THE BIG DEAL

- Insertion Loss, 0.5 dB Typ.
- High Rejection, 70 dB Typ.
- Miniature Shielded Package

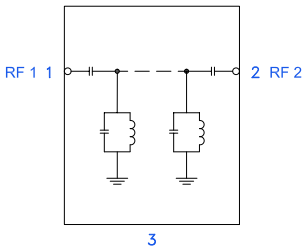


Generic photo used for illustration purposes only

APPLICATIONS

- Terminal Equipment - V-SAT
- Wireless Communication
- ISM Band
- Bluetooth

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	Fc	—	—	2491.75	—	MHz
	Insertion Loss	F1-F2	2483.5 - 2500	—	0.5	0.7	dB
	Return Loss	F1-F2	2483.5 - 2500	12	15	—	dB
Stopband, Lower	Rejection	DC-F3	DC - 1000	60	70	—	dB
		F3-F4	1000 - 2060	20	25	—	
Stopband, Upper	Rejection	F5-F6	3400 - 3800	20	25	—	dB
		F6-F7	3800 - 5000	—	20	—	

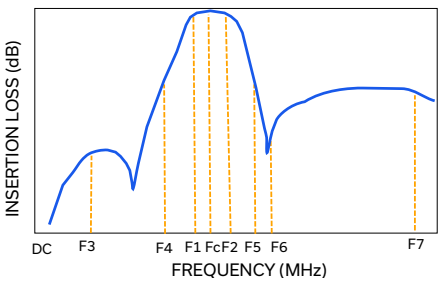
1. Tested in Evaluation Board P/N TB-CBP3-2491CK+.
2. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

ABSOLUTE MAXIMUM RATINGS[3]

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power[4]	10 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 4 W at +85°C.

TYPICAL FREQUENCY RESPONSE



REV. OR
ECO-031318
EDU5206
CBP3-2491CK+
MCINU
260912

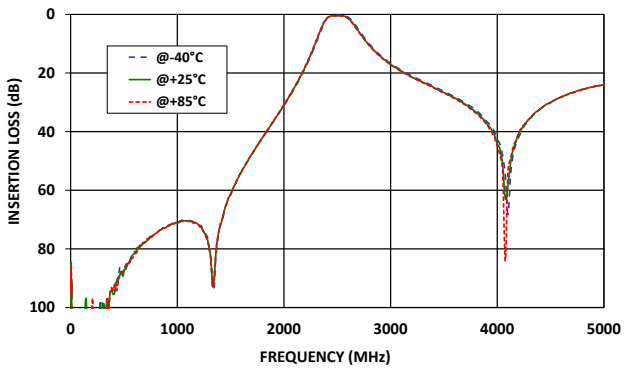
Band Pass Filter

CBP3-2491CK+

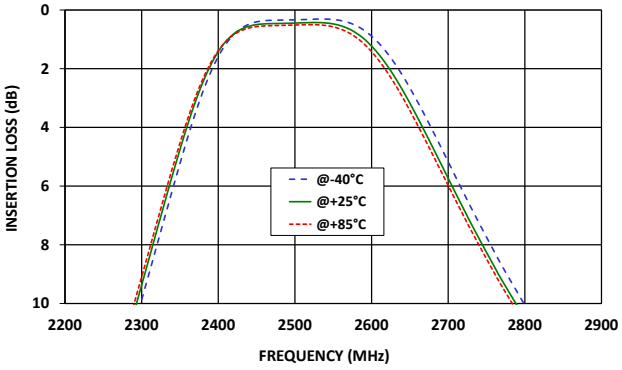
50Ω 2483.5 to 2500 MHz

TYPICAL PERFORMANCE GRAPHS

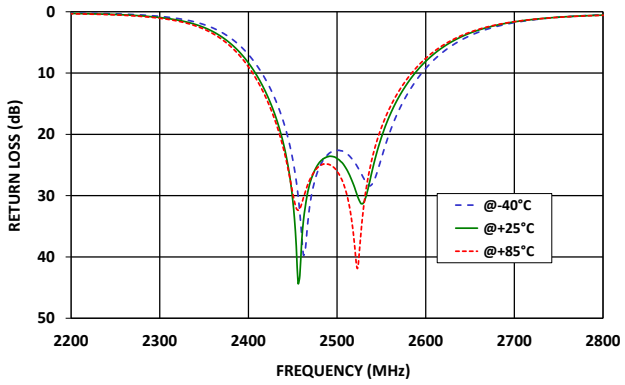
CBP3-2491CK+
INSERTION LOSS



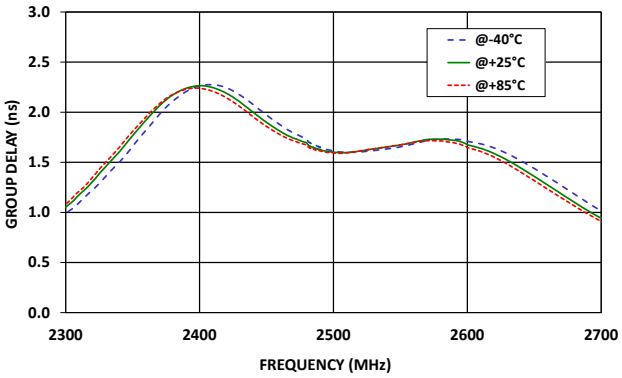
CBP3-2491CK+
INSERTION LOSS (Zoomed)



CBP3-2491CK+
RETURN LOSS (Zoomed)



CBP3-2491CK+
GROUP DELAY



CERAMIC RESONATOR SURFACE MOUNT

Band Pass Filter

CBP3-2491CK+

50Ω 2483.5 to 2500 MHz

FUNCTIONAL DIAGRAM

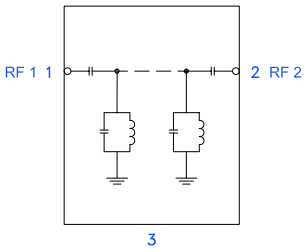


Figure 1. CBP3-2491CK+ Functional Diagram

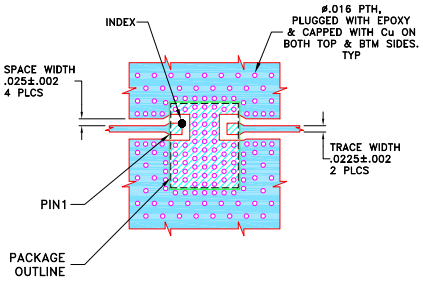
PAD DESCRIPTION

Function	Pad Number	Description
RF1[5]	1	Connects to RF Input Port
RF2[5]	2	Connects to RF Output Port
GROUND	3	Connects to Ground on PCB, (See drawing PL-878)

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

SUGGESTED PCB LAYOUT

SUGGESTED MOUNTING CONFIGURATION FOR
BCH3744 CASE STYLE



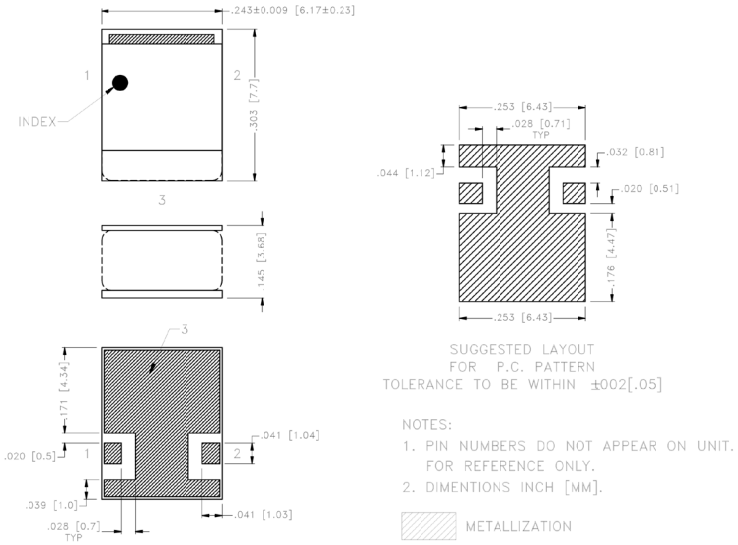
NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .010±.001. COPPER: 1/2 Oz. EACH SIDE.
FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Figure 2. Suggested PCB Layout

CASE STYLE DRAWING



Weight: 0.5 gram
Dimensions are in inches (mm). Tolerances: 3Pl. ± .015

PRODUCT MARKING*: -2491CK

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

Band Pass Filter

CBP3-2491CK+

50Ω 2483.5 to 2500 MHz

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	BCH3744 Lead Finish: Gold over Nickel Plate
RoHS/REACH Status	Compliant
Tape and Reel	F028
Suggested Layout for PCB Design	PL-878
Evaluation Board	TB-CBP3-2491CK+ Gerber File
Environmental Rating	ENV54
MSL Level	MSL1

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