(CERAMIC RESONATOR) SURFACE MOUNT

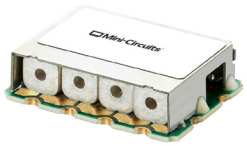
Bandpass Filter

CBP4-A3R5G+

50Ω 3450 to 3550 MHz

KEY FEATURES

- Good insertion loss, 1.6 dB Typ.
- Excellent rejection, 65 dB Typ.
- Miniature shielded package

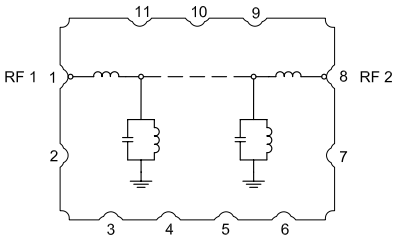


Generic photo used for illustration purposes only

APPLICATIONS

- Wireless Communication
- Satellite Communication
- Radar systems
- Industrial, Scientific and Medical (ISM) Applications
- Radio Astronomy

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	—	—	—	3500	—	MHz
	Insertion Loss	F1-F2	3450 - 3550	—	1.6	2.2	dB
	Return Loss	F1-F2	3450 - 3550	10	15	—	dB
Stop Band, Lower	Rejection	DC-F3	DC - 3000	58	65	—	dB
		F3-F4	3000 - 3330	20	30	—	
Stop Band, Upper	Rejection	F5-F6	3660 - 4050	20	28	—	dB
		F6-F7	4050 - 5500	30	40	—	

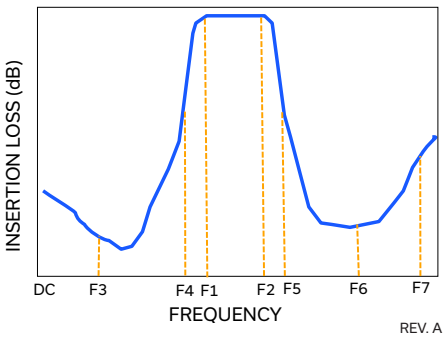
1. Tested in Evaluation Board P/N TB-CBP4-A3R5G+.
2. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.
3. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output 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]	8 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. A
ECO-023414
EDU4940
CBP4-A3R5G+
URJ
241021

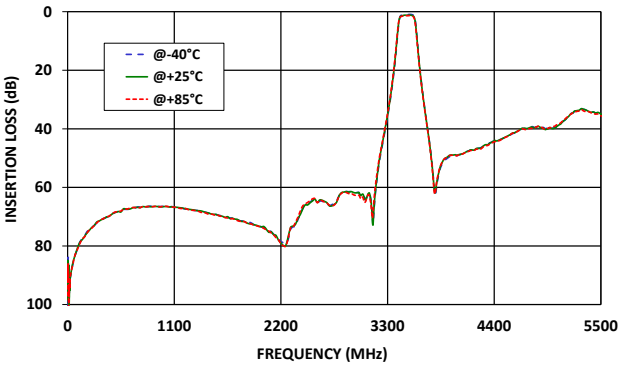
Bandpass Filter

CBP4-A3R5G+

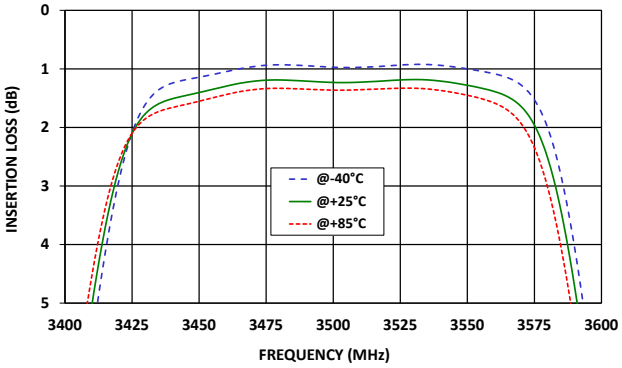
50Ω 3450 to 3550 MHz

TYPICAL PERFORMANCE GRAPHS

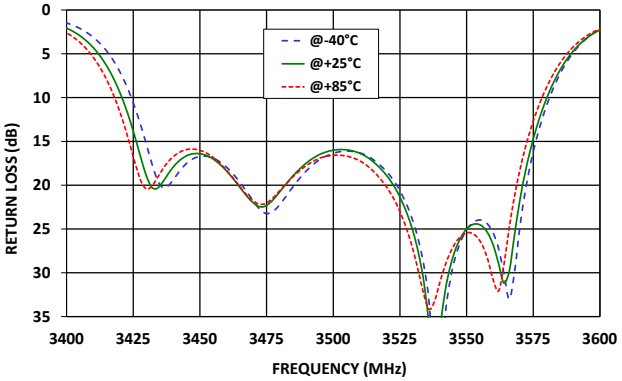
CBP4-A3R5G+
INSERTION LOSS



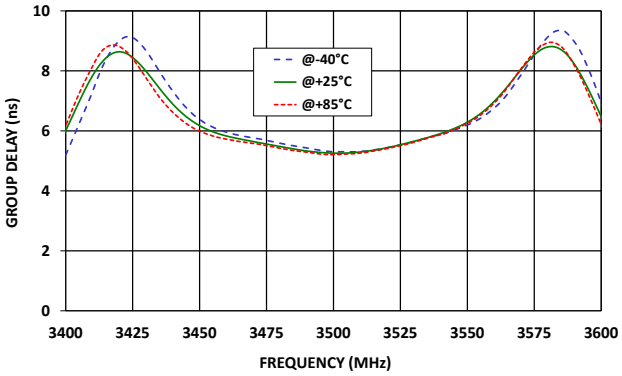
CBP4-A3R5G+
INSERTION LOSS (Zoomed)



CBP4-A3R5G+
RETURN LOSS (Zoomed)



CBP4-A3R5G+
GROUP DELAY



(CERAMIC RESONATOR) SURFACE MOUNT

Bandpass Filter

CBP4-A3R5G+

50Ω 3450 to 3550 MHz

FUNCTIONAL DIAGRAM

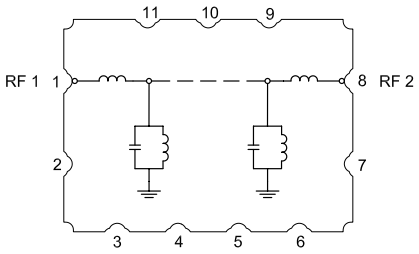


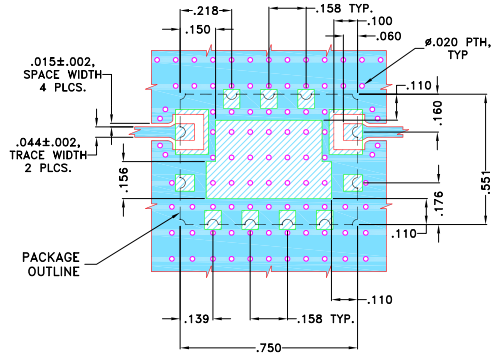
Figure 1. CBP4-A3R5G+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1[2]	1	Connects to RF Input Port
RF2[2]	8	Connects to RF Output Port
GROUND	2-7, 9-11	Connects to Ground on PCB, (See drawing PL-709)
NC	-	No connection, not used internally. See drawing PL-709 for connection to PCB

SUGGESTED PCB LAYOUT (PL-709)

SUGGESTED MOUNTING CONFIGURATION FOR
RZ2511-1 CASE STYLE



NOTES:

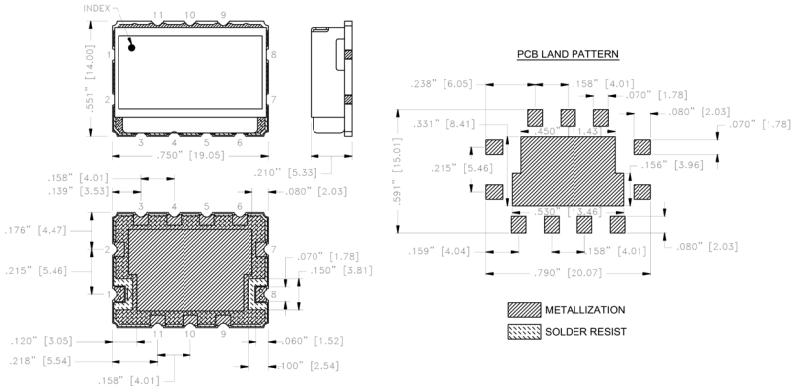
1. TRACE WIDTH IS SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .023"±.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Figure 2. Suggested PCB Layout PL-709

CASE STYLE DRAWING



Weight: 4.6 gram

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

PRODUCT MARKING*: CBP4-A3R5G

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

Bandpass Filter

CBP4-A3R5G+

50Ω 3450 to 3550 MHz

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	RZ2511-1 Lead Finish: Electroless Nickel Immersion Gold
RoHS Status	Compliant
Tape and Reel	F122
Suggested Layout for PCB Design	PL-709
Evaluation Board	TB-CBP4-A3R5G+
	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