



(CERAMIC RESONATOR) SURFACE MOUNT

# Bandpass Filter

## CBP4-A3G+

50Ω

2950 to 3050 MHz

### KEY FEATURES

- Good insertion loss, 1.6 dB Typ.
- Excellent rejection, 70 dB Typ.
- Miniature shielded package

### APPLICATIONS

- Wireless Communication
- Satellite Communication
- Radar systems

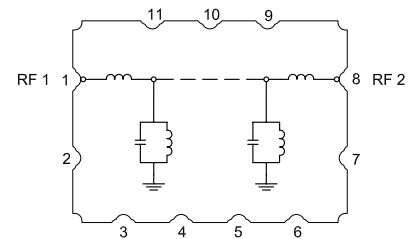


Generic photo used for illustration purposes only

### 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.

### FUNCTIONAL DIAGRAM



### ELECTRICAL SPECIFICATIONS<sup>1,2,3</sup> AT +25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency	—	—	3000	—	MHz
Passband	Insertion Loss	F1-F2	—	1.6	2.2	dB
	Return Loss	F1-F2	10	15	—	dB
Stop Band, Lower	Rejection	DC-F3	60	70	—	dB
		F3-F4	20	30	—	dB
Stop Band, Upper	Rejection	F5-F6	20	29	—	dB
		F6-F7	30	40	—	dB

1. Tested in Evaluation Board P/N TB-CBP4-A3G+.

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.

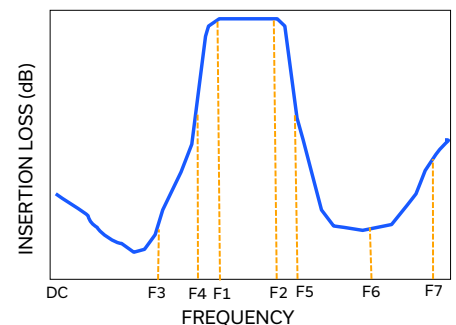
### ABSOLUTE MAXIMUM RATINGS<sup>4</sup>

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Input Power <sup>5</sup>	8 W at 25°C

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

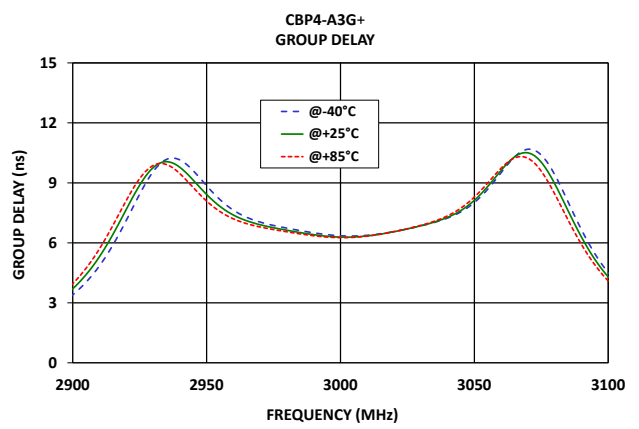
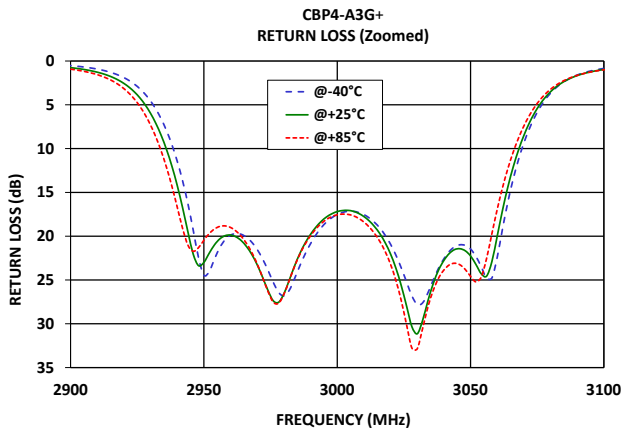
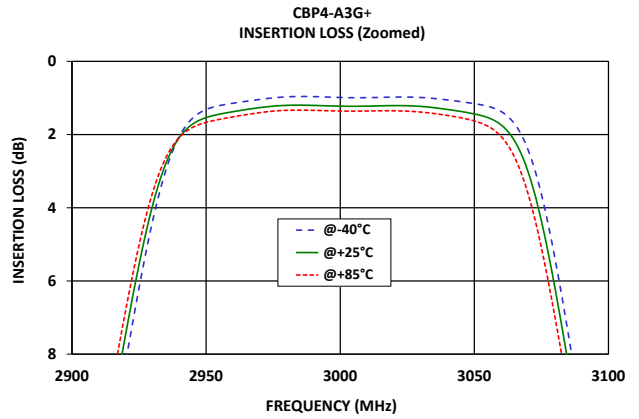
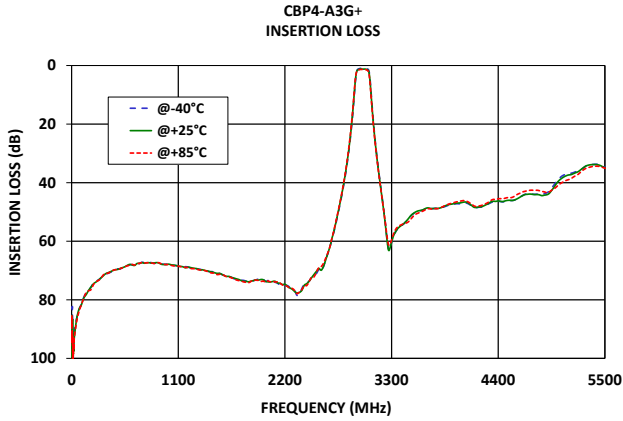
5. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 2 W at +85°C.

### TYPICAL FREQUENCY RESPONSE AT +25°C





### TYPICAL PERFORMANCE GRAPHS





### FUNCTIONAL DIAGRAM

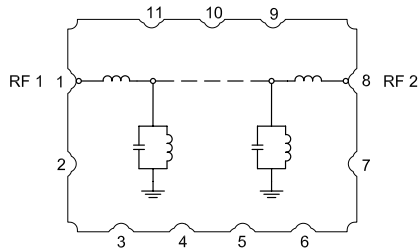
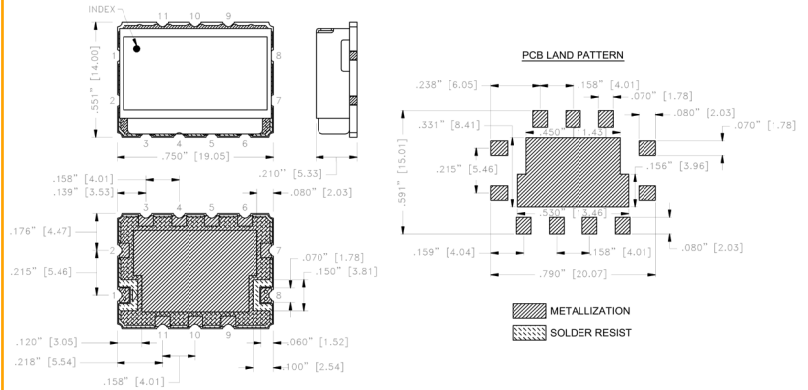


Figure 1. CBP4-A3G+ Functional Diagram

### PAD DESCRIPTION

Function	Pad Number	Description
RF1 <sup>2</sup>	1	Connects to RF Input Port
RF2 <sup>2</sup>	8	Connects to RF Output Port
GROUND	2-7, 9-11	Connects to Ground on PCB, (See drawing PL-654)
NC	-	No connection, not used internally. See drawing PL-654 for connection to PCB

### CASE STYLE DRAWING

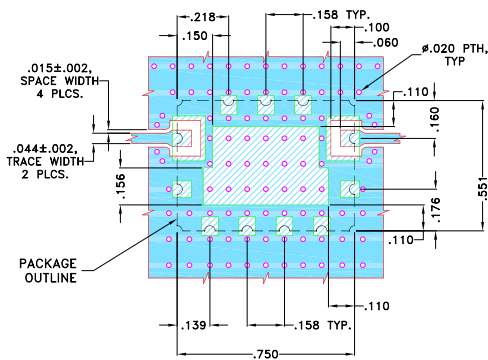


Weight: 4.6 gram

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

### SUGGESTED PCB LAYOUT (PL-654)

#### SUGGESTED MOUNTING CONFIGURATION FOR RZ2511-1 CASE STYLE



NOTES:

- 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.
- 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-654

### PRODUCT MARKING\*: CBP4-A3G

\*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	RZ2511-1 Lead Finish: Electroless Nickel Immersion Gold
RoHS Status	Compliant
Tape and Reel	F122
Suggested Layout for PCB Design	PL-654
Evaluation Board	TB-CBP4-A3G+
	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](http://www.minicircuits.com/terms/viewterm.html)



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