(CERAMIC RESONATOR) SURFACE MOUNT

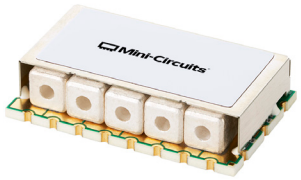
# Bandpass Filter

# CBP6-570CG+

50Ω 555 to 585 MHz

## KEY FEATURES

- Good Insertion Loss, 1.4 dB Typ.
- Good Return Loss, 17 dB Typ.
- Excellent Rejection, 85 dB Typ.

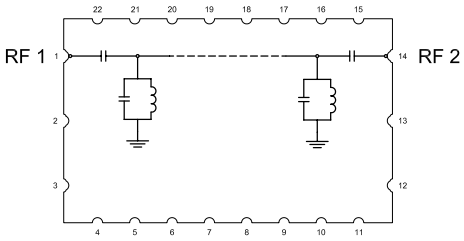


*Generic photo used for illustration purposes only*

## APPLICATIONS

- Television Broadcasting
- Test and Measurement
- Audio Systems

## 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 | — | — | — | 570 | — | MHz |
| | Insertion Loss | F1-F2 | 555 - 585 | — | 1.4 | 2 | dB |
| | Return Loss | F1-F2 | 555 - 585 | 10 | 17 | — | dB |
| Stop Band, Lower | Rejection | DC-F3 | DC - 400 | 75 | 85 | — | dB |
| | | F3-F4 | 400 - 530 | 20 | 31 | — | |
| Stop Band, Upper | Rejection | F5-F6 | 612 - 700 | 20 | 29 | — | dB |
| | | F6-F7 | 700 - 950 | 60 | 70 | — | |

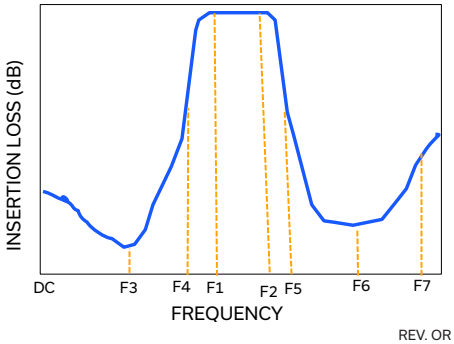
1. Tested in Evaluation Board P/N TB-CBP6-570CG+.
2. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.
3. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output 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 0.5 W at +85°C.

## TYPICAL FREQUENCY RESPONSE AT +25°C




REV. OR
ECO-023049
EDU4942
CBP6-570CG+
URJ
240916

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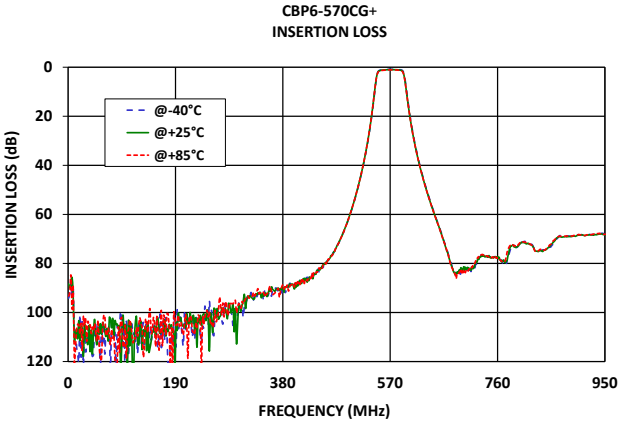
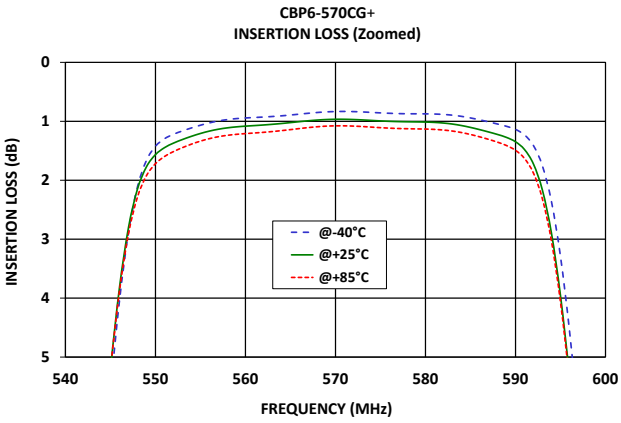
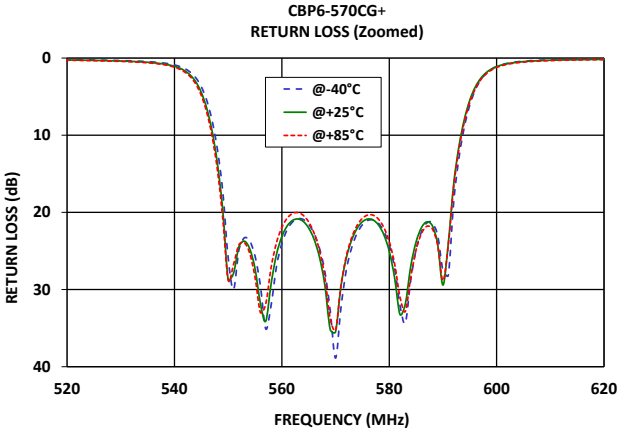
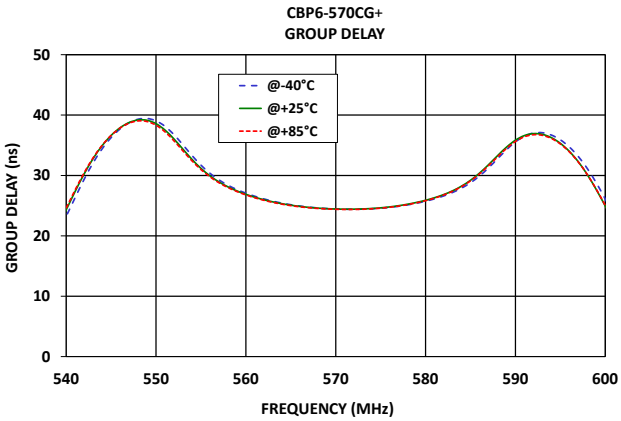
### TYPICAL PERFORMANCE GRAPHS



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## FUNCTIONAL DIAGRAM

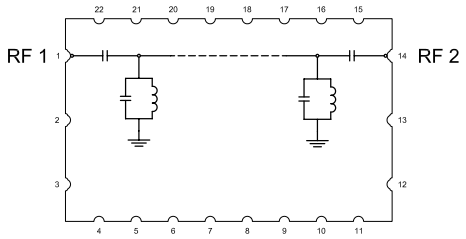


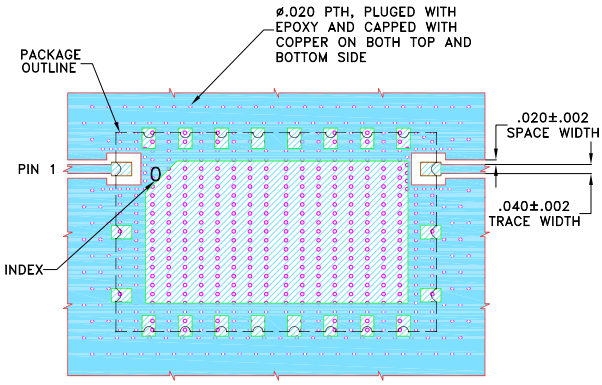

Figure 1. CBP6-570CG+ Functional Diagram

## PAD DESCRIPTION

| Function | Pad Number | Description |
|---|---|---|
| RF1[2] | 1 | Connects to RF Input Port |
| RF2[2] | 14 | Connects to RF Output Port |
| GROUND | 2-13, 15-22 | Connects to Ground on PCB, (See drawing PL-792) |
| NC | - | No connection, not used internally. See drawing PL-792 for connection to PCB |

## SUGGESTED PCB LAYOUT (PL-792)

SUGGESTED MOUNTING CONFIGURATION
FOR AAY3523 CASE STYLE

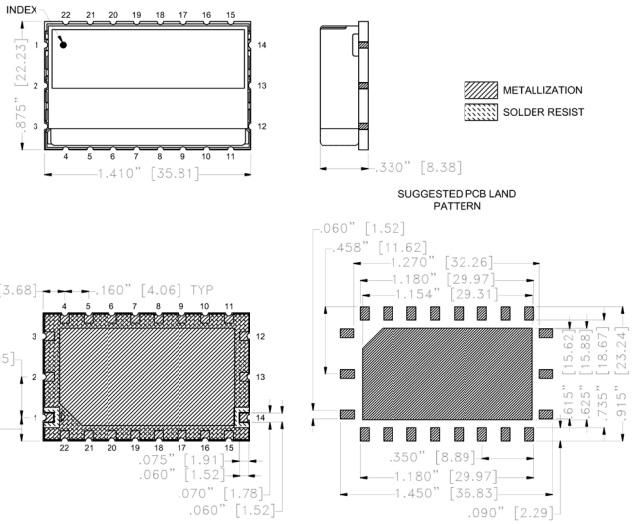



NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .020±.0015; COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER PATTERN WITH SMOBC (SOLDER MASK OVER BARE COPPER)
DENOTES PCB COPPER PATTERN FREE OF SOLDERMASK

Figure 2. Suggested PCB Layout PL-792

## CASE STYLE DRAWING




**Weight: 15.5 gram**
**Dimensions are in inches (mm). Tolerances: 2Pl. ± .030; 3Pl. ± .015**

## PRODUCT MARKING*: CBP6-570CG

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

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**ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASH BOARD.** CLICK HERE

| | |
|---|---|
| **Performance Data and Graphs** | Data<br>Graphs<br>S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads |
| **Case Style** | AAY3523 Lead Finish: Electroless Nickel Immersion Gold |
| **RoHS Status** | Compliant |
| **Tape and Reel** | - |
| **Suggested Layout for PCB Design** | PL-792 |
| **Evaluation Board** | TB-CBP6-570CG+ |
| | 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.
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