CERAMIC RESONATOR SURFACE MOUNT

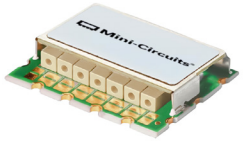
# Band Pass Filter

# CBP2-1962BV+

50Ω 1837 to 2087 MHz

## THE BIG DEAL

- Good Insertion Loss, 1.8 dB Typ.
- Excellent Rejection, 70 dB Typ.
- Good Return Loss, 15 dB Typ.
- Miniature Shielded Package

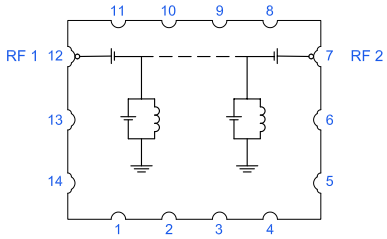


*Generic photo used for illustration purposes only*

## APPLICATIONS

- Aerospace
- General
- Satellite
- Telecommunications and Mobile Networks

## 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 tunning and process control.

## ELECTRICAL SPECIFICATIONS[1,2] AT +25°C

| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| Passband | Center Frequency | — | — | — | 1962 | — | MHz |
| | Insertion Loss | F1-F2 | 1837 - 2087 | — | 1.8 | 2.5 | dB |
| | Return Loss | F1-F2 | 1837 - 2087 | 10 | 15 | — | dB |
| Stopband, Lower | Rejection | DC-F3 | DC - 1300 | 60 | 70 | — | dB |
| | | F3-F4 | 1300 - 1720 | 20 | 30 | — | |
| Stopband, Upper | Rejection | F5-F6 | 2210 - 2350 | 20 | 30 | — | dB |
| | | F6-F7 | 2350 - 3400 | 40 | 50 | — | |

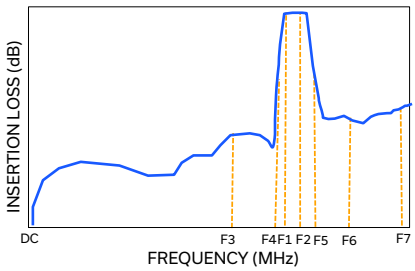
1. Tested in Evaluation Board P/N TB-CBP2-1962BV+.
2. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.

## 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 1 W at +85°C.

## TYPICAL FREQUENCY RESPONSE




REV. OR
ECO-027744
EDU5205
CBP2-1962BV+
URJ
251122

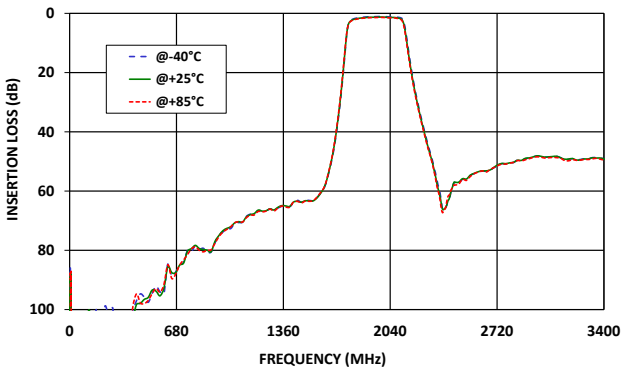
# Band Pass Filter

# CBP2-1962BV+

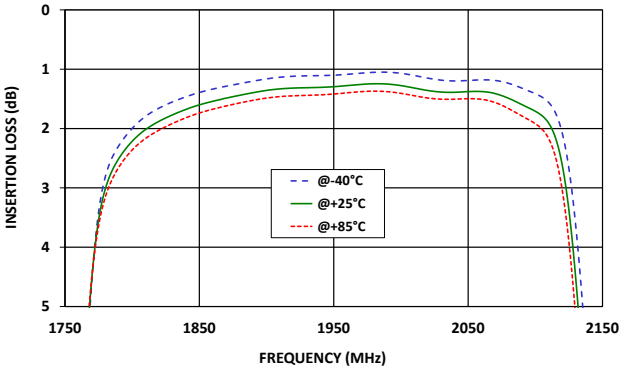
50Ω 1837 to 2087 MHz

## TYPICAL PERFORMANCE GRAPHS

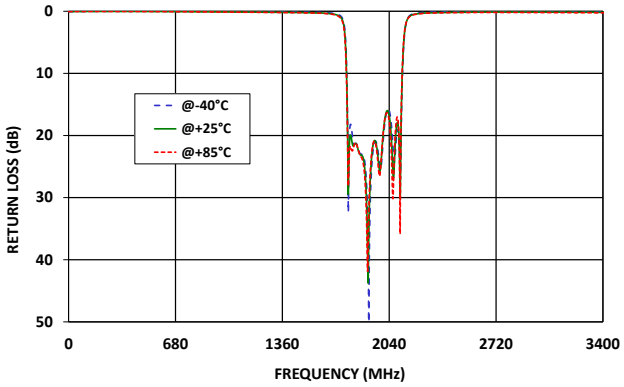
CBP2-1962BV+
INSERTION LOSS



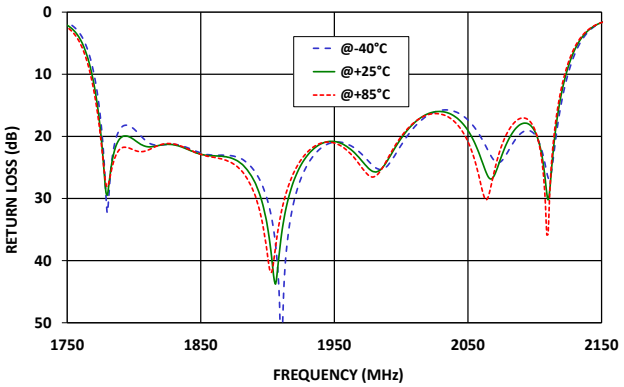

CBP2-1962BV+
INSERTION LOSS (Zoomed)



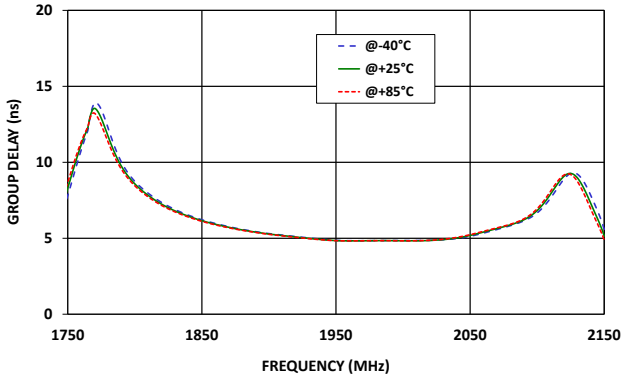

CBP2-1962BV+
RETURN LOSS




CBP2-1962BV+
RETURN LOSS (Zoomed)




CBP2-1962BV+
GROUP DELAY



CERAMIC RESONATOR SURFACE MOUNT

# Band Pass Filter

# CBP2-1962BV+

50Ω 1837 to 2087 MHz

## FUNCTIONAL DIAGRAM

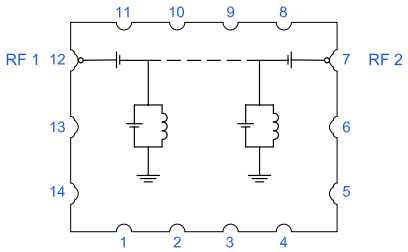


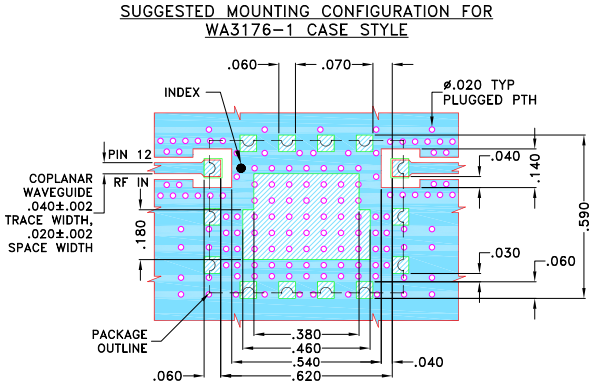

Figure 1. CBP2-1926BV+ Functional Diagram

## PAD DESCRIPTION

| Function | Pad Number | Description |
|---|---|---|
| RF1[5] | 12 | Connects to RF Input Port |
| RF2[5] | 7 | Connects to RF Output Port |
| GROUND | 1-6,8-11,13,14 | Connects to Ground on PCB, (See drawing PL-722) |

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

## SUGGESTED PCB LAYOUT



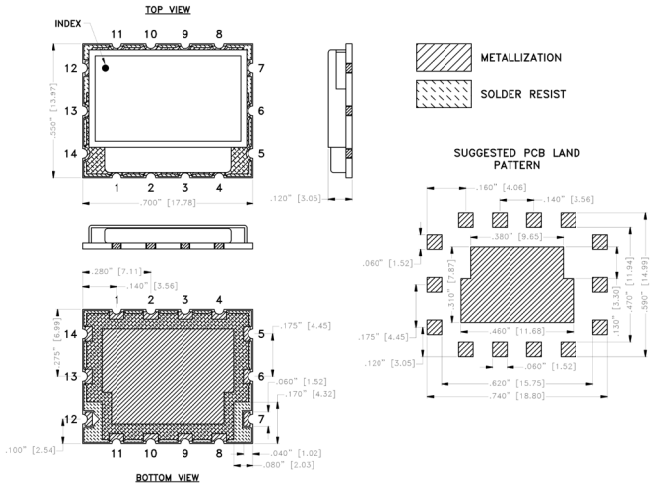

NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS (RO4350B) WITH DIELECTRIC THICKNESS .020±.0015. COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Figure 2. Suggested PCB Layout

## CASE STYLE DRAWING




Weight: 1.3 grams
Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015

## PRODUCT MARKING*: CBP2-1962BV

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

# Band Pass Filter

## CBP2-1962BV+

50Ω 1837 to 2087 MHz

**ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD** CLICK HERE

| | |
|---|---|
| **Performance Data & Graphs** | Data<br>Graphs<br>S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads |
| **Case Style** | WA3176-1 Lead Finish: Gold over Nickel Plate |
| **RoHS/REACH Status** | Compliant |
| **Tape and Reel** | F122 |
| **Suggested Layout for PCB Design** | PL-722 |
| **Evaluation Board** | TB-CBP2-1962BV+<br>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

# Surface Mount Bandpass Filter CBP2-1962BV+

*Typical Performance Data*

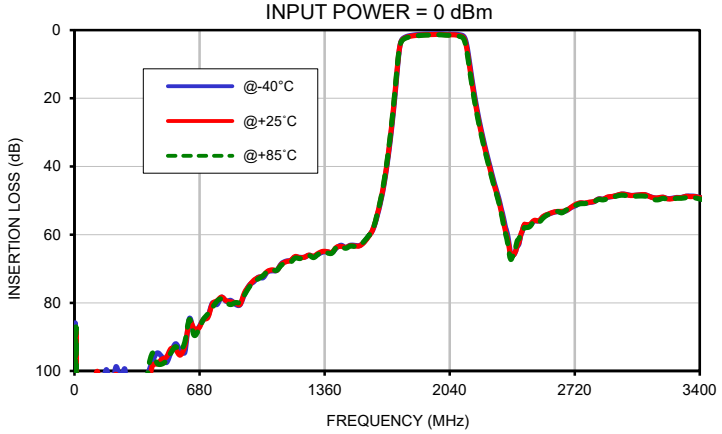
| FREQ. | INSERTION LOSS | | | INPUT RETURN LOSS | | | OUTPUT RETURN LOSS | | |
|---|---|---|---|---|---|---|---|---|---|
| (MHz) | (dB) | | | (dB) | | | (dB) | | |
| | @-40°C | @+25°C | @+85°C | @-40°C | @+25°C | @+85°C | @-40°C | @+25°C | @+85°C |
| 10 | 112.53 | 108.91 | 106.76 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 20 | 111.92 | 121.01 | 105.83 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| 50 | 108.01 | 106.88 | 111.75 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| 100 | 118.93 | 107.03 | 119.06 | 0.03 | 0.03 | 0.04 | 0.03 | 0.04 | 0.04 |
| 150 | 104.56 | 112.13 | 107.34 | 0.01 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 |
| 200 | 107.73 | 105.15 | 109.16 | 0.01 | 0.02 | 0.03 | 0.01 | 0.03 | 0.03 |
| 300 | 127.78 | 107.35 | 107.52 | 0.00 | 0.02 | 0.03 | 0.01 | 0.03 | 0.03 |
| 400 | 100.96 | 103.92 | 99.83 | 0.01 | 0.03 | 0.04 | 0.01 | 0.03 | 0.04 |
| 500 | 97.55 | 95.91 | 96.93 | 0.00 | 0.04 | 0.05 | 0.01 | 0.04 | 0.05 |
| 600 | 94.58 | 92.79 | 91.54 | 0.00 | 0.04 | 0.05 | 0.01 | 0.04 | 0.06 |
| 700 | 84.94 | 84.99 | 84.95 | 0.02 | 0.06 | 0.08 | 0.03 | 0.06 | 0.08 |
| 1000 | 72.49 | 72.59 | 72.95 | 0.05 | 0.11 | 0.13 | 0.07 | 0.11 | 0.13 |
| 1300 | 66.41 | 66.37 | 66.74 | 0.10 | 0.17 | 0.19 | 0.12 | 0.16 | 0.18 |
| 1500 | 63.11 | 63.25 | 63.37 | 0.14 | 0.22 | 0.26 | 0.16 | 0.21 | 0.24 |
| 1600 | 60.31 | 60.52 | 60.32 | 0.19 | 0.28 | 0.31 | 0.21 | 0.28 | 0.32 |
| 1700 | 39.45 | 38.80 | 38.27 | 0.41 | 0.54 | 0.62 | 0.46 | 0.60 | 0.69 |
| 1720 | 31.03 | 30.25 | 29.63 | 0.58 | 0.74 | 0.85 | 0.65 | 0.83 | 0.96 |
| 1740 | 20.80 | 19.94 | 19.26 | 1.03 | 1.29 | 1.49 | 1.12 | 1.42 | 1.67 |
| 1778 | 3.01 | 3.19 | 3.32 | 25.42 | 26.67 | 26.14 | 16.10 | 18.20 | 20.35 |
| 1837 | 1.49 | 1.70 | 1.85 | 21.60 | 21.82 | 21.73 | 23.86 | 24.43 | 24.42 |
| 1850 | 1.39 | 1.60 | 1.74 | 22.67 | 22.88 | 22.89 | 25.61 | 26.46 | 26.71 |
| 1900 | 1.16 | 1.36 | 1.49 | 30.35 | 34.65 | 39.21 | 33.02 | 33.09 | 32.21 |
| 1920 | 1.12 | 1.32 | 1.45 | 30.25 | 26.95 | 25.66 | 27.77 | 24.94 | 23.92 |
| 1940 | 1.11 | 1.31 | 1.43 | 21.88 | 21.20 | 21.09 | 21.12 | 20.24 | 20.07 |
| 1962 | 1.08 | 1.27 | 1.39 | 21.47 | 22.06 | 22.77 | 20.41 | 20.40 | 20.68 |
| 1980 | 1.05 | 1.25 | 1.37 | 24.89 | 25.70 | 26.47 | 22.31 | 22.04 | 22.04 |
| 1990 | 1.05 | 1.25 | 1.38 | 24.68 | 23.80 | 23.55 | 21.88 | 20.90 | 20.58 |
| 2000 | 1.07 | 1.28 | 1.41 | 21.42 | 20.32 | 20.03 | 19.68 | 18.64 | 18.35 |
| 2050 | 1.19 | 1.38 | 1.50 | 17.36 | 19.05 | 20.86 | 15.87 | 16.81 | 17.84 |
| 2087 | 1.29 | 1.56 | 1.75 | 20.10 | 18.46 | 17.36 | 17.91 | 16.52 | 15.51 |
| 2127 | 3.01 | 3.78 | 4.37 | 8.49 | 7.57 | 7.03 | 8.15 | 6.90 | 6.10 |
| 2180 | 20.51 | 21.51 | 22.21 | 0.54 | 0.65 | 0.70 | 0.50 | 0.58 | 0.61 |
| 2210 | 28.86 | 29.69 | 30.28 | 0.32 | 0.44 | 0.48 | 0.30 | 0.39 | 0.42 |
| 2215 | 30.09 | 30.90 | 31.48 | 0.30 | 0.42 | 0.46 | 0.29 | 0.37 | 0.41 |
| 2230 | 33.66 | 34.42 | 34.99 | 0.26 | 0.37 | 0.42 | 0.25 | 0.33 | 0.37 |
| 2300 | 47.98 | 48.73 | 49.13 | 0.15 | 0.26 | 0.30 | 0.14 | 0.22 | 0.26 |
| 2350 | 58.97 | 60.23 | 61.01 | 0.12 | 0.22 | 0.26 | 0.11 | 0.19 | 0.23 |
| 2400 | 64.67 | 64.76 | 63.48 | 0.09 | 0.19 | 0.24 | 0.08 | 0.16 | 0.20 |
| 2410 | 63.36 | 63.08 | 61.62 | 0.09 | 0.19 | 0.23 | 0.07 | 0.15 | 0.20 |
| 2430 | 59.78 | 59.46 | 59.36 | 0.08 | 0.18 | 0.22 | 0.07 | 0.15 | 0.19 |
| 2450 | 57.02 | 57.00 | 57.96 | 0.07 | 0.18 | 0.22 | 0.06 | 0.14 | 0.19 |
| 2475 | 57.34 | 57.01 | 57.68 | 0.06 | 0.17 | 0.22 | 0.05 | 0.14 | 0.18 |
| 2500 | 56.04 | 55.82 | 56.03 | 0.06 | 0.17 | 0.21 | 0.05 | 0.14 | 0.18 |
| 2525 | 55.96 | 55.93 | 56.39 | 0.05 | 0.16 | 0.21 | 0.05 | 0.13 | 0.18 |
| 2550 | 54.68 | 54.61 | 55.05 | 0.04 | 0.15 | 0.20 | 0.04 | 0.12 | 0.17 |
| 2600 | 53.57 | 53.48 | 53.62 | 0.03 | 0.14 | 0.19 | 0.02 | 0.11 | 0.16 |
| 2625 | 53.27 | 53.20 | 53.18 | 0.03 | 0.14 | 0.19 | 0.02 | 0.11 | 0.16 |
| 2650 | 53.31 | 53.18 | 53.61 | 0.03 | 0.14 | 0.19 | 0.02 | 0.11 | 0.16 |
| 2675 | 53.00 | 52.89 | 52.75 | 0.03 | 0.14 | 0.19 | 0.01 | 0.10 | 0.16 |
| 2700 | 52.08 | 51.99 | 52.07 | 0.02 | 0.13 | 0.19 | 0.00 | 0.10 | 0.16 |
| 2725 | 51.52 | 51.12 | 51.39 | 0.02 | 0.13 | 0.19 | 0.00 | 0.10 | 0.16 |
| 2750 | 50.74 | 50.68 | 50.94 | 0.02 | 0.13 | 0.19 | 0.01 | 0.09 | 0.15 |
| 2775 | 50.86 | 50.75 | 50.89 | 0.02 | 0.14 | 0.20 | 0.00 | 0.10 | 0.16 |
| 2800 | 50.56 | 50.47 | 50.56 | 0.02 | 0.14 | 0.20 | 0.00 | 0.10 | 0.17 |
| 2900 | 49.06 | 48.94 | 49.44 | 0.01 | 0.13 | 0.20 | 0.01 | 0.09 | 0.16 |
| 3000 | 48.21 | 48.27 | 48.57 | 0.02 | 0.14 | 0.21 | 0.00 | 0.10 | 0.18 |
| 3100 | 48.25 | 48.26 | 48.71 | 0.03 | 0.15 | 0.22 | 0.02 | 0.12 | 0.20 |
| 3200 | 49.05 | 49.02 | 49.37 | 0.02 | 0.15 | 0.23 | 0.02 | 0.13 | 0.20 |
| 3300 | 49.11 | 49.16 | 49.34 | 0.03 | 0.16 | 0.23 | 0.02 | 0.13 | 0.20 |
| 3400 | 49.11 | 49.17 | 49.53 | 0.04 | 0.17 | 0.25 | 0.03 | 0.14 | 0.21 |

## Typical Performance Data

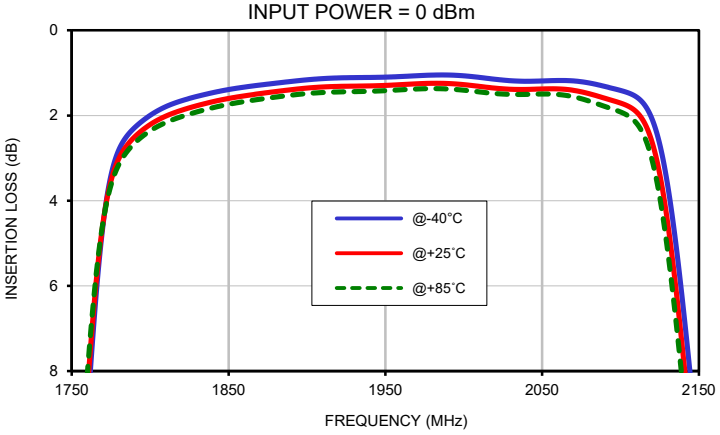
| FREQ. (MHz) | GROUP DELAY (nsec) | | |
|---|---|---|---|
| | @-40°C | @+25°C | @+85°C |
| 1837 | 6.62 | 6.55 | 6.49 |
| 1840 | 6.52 | 6.45 | 6.40 |
| 1842 | 6.45 | 6.39 | 6.34 |
| 1843 | 6.42 | 6.36 | 6.31 |
| 1845 | 6.36 | 6.30 | 6.25 |
| 1850 | 6.22 | 6.16 | 6.11 |
| 1855 | 6.09 | 6.03 | 5.99 |
| 1860 | 5.97 | 5.92 | 5.88 |
| 1865 | 5.87 | 5.82 | 5.78 |
| 1870 | 5.76 | 5.72 | 5.69 |
| 1875 | 5.67 | 5.63 | 5.60 |
| 1880 | 5.58 | 5.55 | 5.52 |
| 1885 | 5.51 | 5.47 | 5.45 |
| 1890 | 5.43 | 5.40 | 5.38 |
| 1900 | 5.31 | 5.28 | 5.26 |
| 1905 | 5.25 | 5.23 | 5.21 |
| 1910 | 5.21 | 5.18 | 5.16 |
| 1920 | 5.11 | 5.08 | 5.06 |
| 1940 | 4.93 | 4.91 | 4.89 |
| 1950 | 4.86 | 4.85 | 4.84 |
| 1960 | 4.84 | 4.83 | 4.83 |
| 1962 | 4.84 | 4.83 | 4.83 |
| 1980 | 4.84 | 4.84 | 4.84 |
| 1990 | 4.85 | 4.84 | 4.84 |
| 2000 | 4.85 | 4.84 | 4.83 |
| 2010 | 4.85 | 4.83 | 4.84 |
| 2020 | 4.86 | 4.85 | 4.87 |
| 2050 | 5.13 | 5.19 | 5.24 |
| 2087 | 6.03 | 6.10 | 6.15 |

## *Typical Performance Curves*

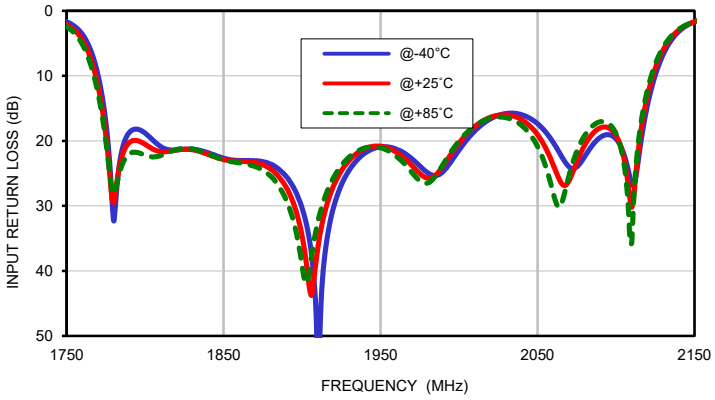
**INSERTION LOSS vs. TEMPERATURE**
INPUT POWER = 0 dBm



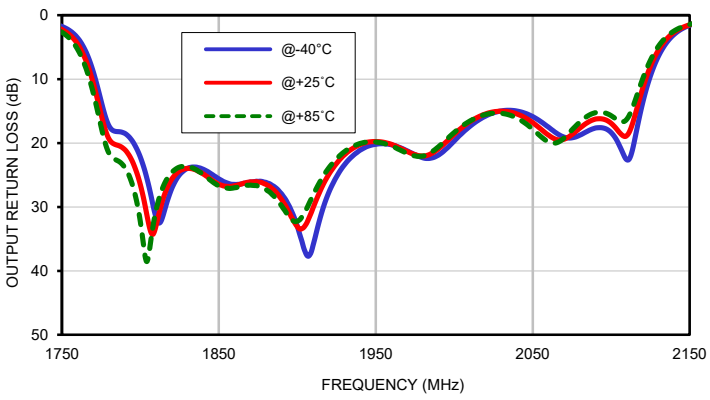

**INSERTION LOSS vs. TEMPERATURE (Zoomed)**
INPUT POWER = 0 dBm



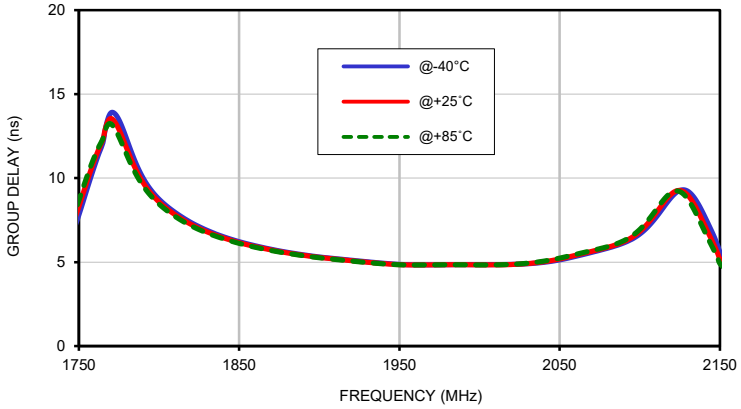

**INPUT RETURN LOSS vs. TEMPERATURE**
INPUT POWER = 0 dBm




**OUTPUT RETURN LOSS vs. TEMPERATURE**
INPUT POWER = 0 dBm



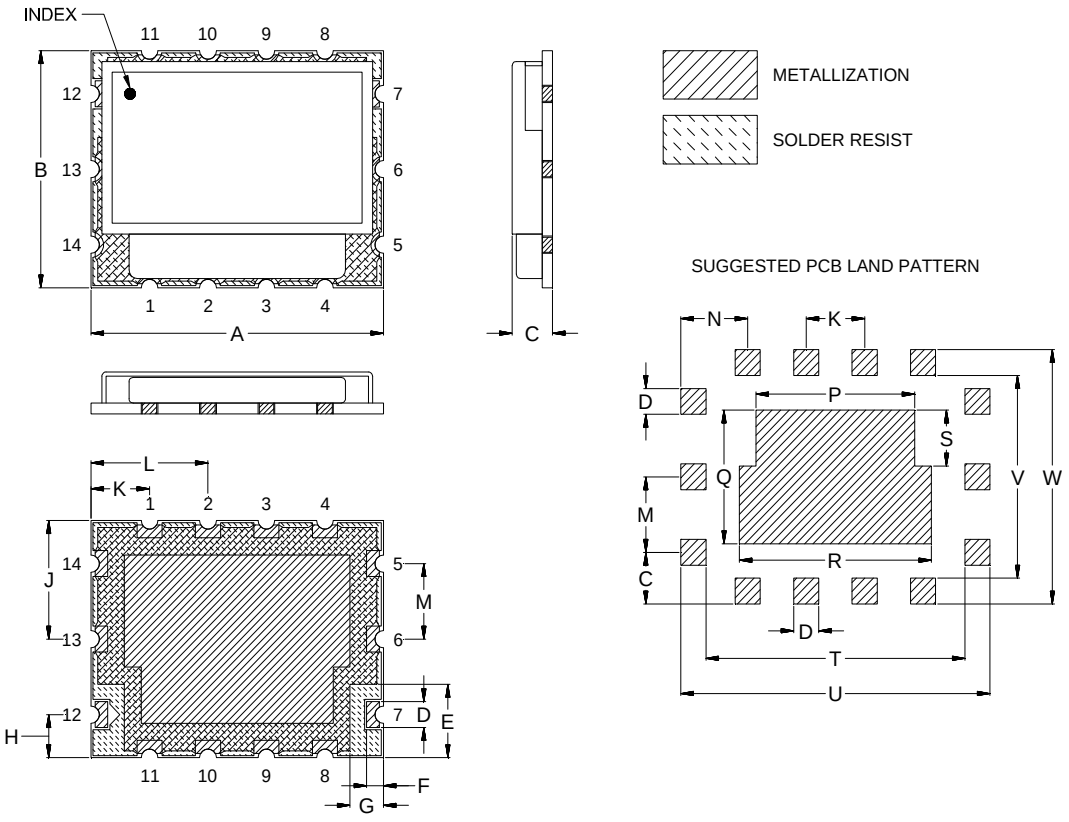

**GROUP DELAY vs. TEMPERATURE**
**INPUT POWER = 0 dBm**



# Case Style WA

## Outline Dimensions

**WA3176-1**




| CASE# | A | B | C | D | E | F | G | H | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WA3176-1 | .700 (17.78) | .550 (13.97 | .120 (3.05) | .060 (1.52) | .170 (4.32) | .040 (1.02) | .080 (2.03) | .100 (2.54) | .275 (6.99) | .140 (3.56) | .280 (7.11) | .175 (4.45) |

| CASE# | N | P | Q | R | S | T | U | V | W | WT.GRAMS |
|---|---|---|---|---|---|---|---|---|---|---|
| WA176-1 | .160 (4.06) | .380 (9.65) | .310 (7.87) | .460 (11.68) | .130 (3.30) | .620 (15.75) | .740 (18.80) | .470 (11.94) | .590 (14.99) | 1.3 |

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

### Notes:

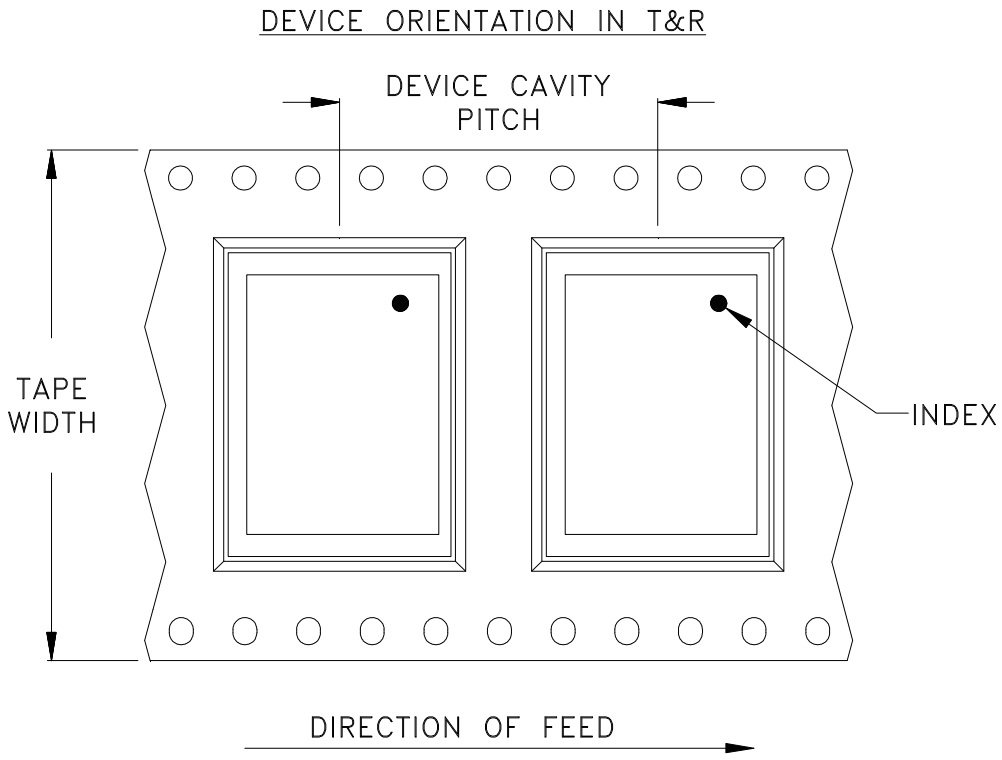
1. Case material: Nickel-Silver alloy.
2. Base: Printed wiring laminate.
3. Termination finish:
   For RoHS Case Styles: 3-5 µ inch Gold over 120-240 µ inch Nickel plate.
   For RoHS-5 Case Styles: Tin-Lead plate.


Mini-Circuits®
ISO 9001 ISO 14001 CERTIFIED
ALL NEW minicircuits.com
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com
RF/IF MICROWAVE COMPONENTS




This document and its contents are the property of Mini-Circuits

# Tape & Reel Packaging TR-F122




| Tape Width, mm | Device Cavity Pitch, mm | Reel Size, inches | Devices per Reel |
|---|---|---|---|
| 32 | 20 | 13 | 500 |

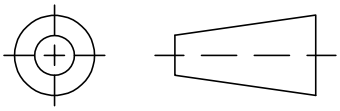
Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf

Mini-Circuits®
INTERNET http://www.minicircuits.com
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010
Mini-Circuits ISO 9001 & ISO 14001 Certified

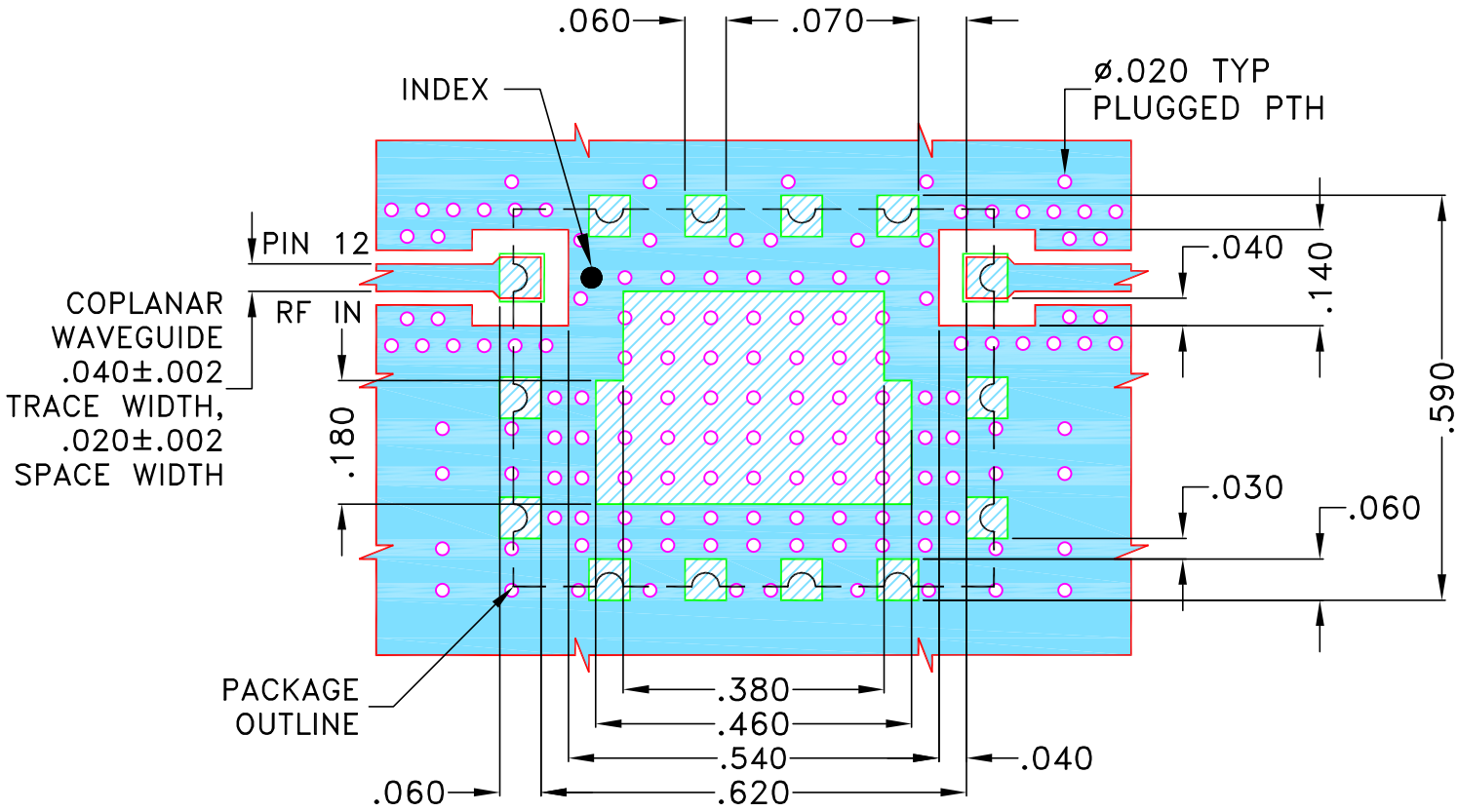

This document and its contents are the property of Mini-Circuits.

THIRD ANGLE PROJECTION



| REVISIONS | | | | | |
|---|---|---|---|---|---|
| REV | ECN No. | DESCRIPTION | DATE | DR | AUTH |
| OR | ECO-010788 | NEW RELEASE | NOV 21 | DDR | VC |
| A | ECO-025443 | INPUT PIN NUMBER CORRECTED | MAY 25 | SPM | VR |
| | | | | | |
| | | | | | |

# SUGGESTED MOUNTING CONFIGURATION FOR WA3176-1 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 LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

| UNLESS OTHERWISE SPECIFIED | | INITIALS | DATE |
|---|---|---|---|
| DIMENSIONS ARE IN INCHES | DRAWN | DDR | 23 NOV 21 |
| TOLERANCES ON: | CHECKED | DDR | 23 NOV 21 |
| 2 PL DECIMALS ± | APPROVED | KN | 23 NOV 21 |
| 3 PL DECIMALS ± .005 | | | |
| ANGLES ± | | | |
| FRACTIONS ± | | | |

Mini-Circuits®

THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS. EXCEPT FOR USE EXPRESSLY GRANTED, IN WRITING, TO ITS VENDORS, VENDEE AND THE UNITED STATES GOVERNMENT, MINI-CIRCUITS RESERVES ALL PROPRIETARY DESIGN, USE , MANUFACTURING AND REPRODUCTION RIGHTS THERETO. THESE CONTENTS SHALL NOT BE USED, DUPLICATED OR DISCLOSED TO ANY OUTSIDE PARTY, IN WHOLE OR IN PART, WITHOUT WRITTEN PERMISSION OF MINI-CIRCUITS.

ASHEETA1.DWG REV:A DATE:01/12/95

Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

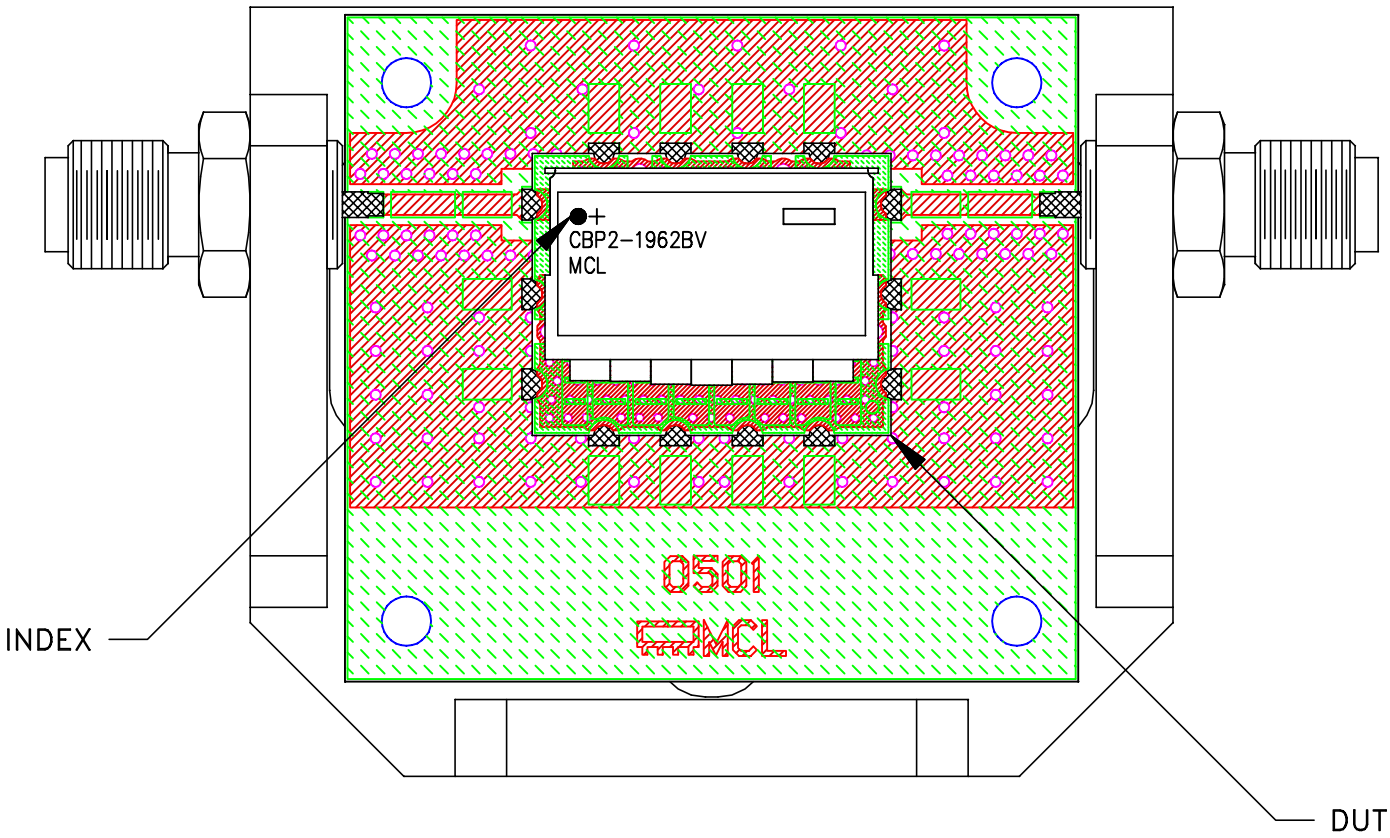
PL DWG WA3176-1 C.S 50 OHM CBP2

| SIZE | CODE IDENT | DRAWING NO: | REV: |
|---|---|---|---|
| A | 15542 | 98-PL-722 | A |

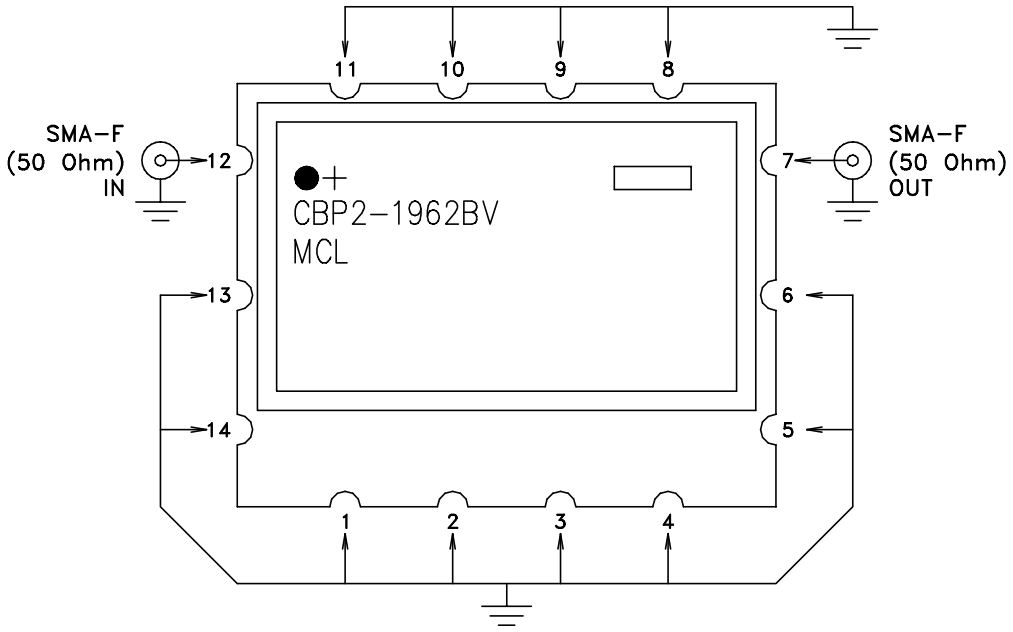
| FILE: | SCALE: | SHEET: |
|---|---|---|
| 98-PL-722 | 3.5:1 | 1 OF 1 |

# Evaluation Board and Circuit

TB-CBP2-1962BV+




Schematic diagram




Notes:

1. PCB Material: ROGERS (RO4350B) OR Equivalent, Dielectric Constant=3.48±.05
Dielectric Thickness: .020±.0015 inch
2. 50 Ohm SMA Female Connectors.

Mini-Circuits®


THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF MINI-CIRCUITS.

Mini-Circuits

# Environmental Specifications ENV54

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification | Test/Inspection Condition | Reference/Spec |
|---|---|---|
| Operating Temperature | -40° to 85°C<br>Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 100° C<br>Ambient Environment | Individual Model Data Sheet |
| Humidity | 90 to 95% RH, 96 hours, 40°C | MIL-STD-202, Method 103B, Condition B, Except 50°C |
| Thermal Shock | -55° to 100°C, 100 cycles | MIL-STD-202, Method 107, Condition A-3, except +100°C |
| Solder Reflow Heat | Sn-Pb Eutectic Process: 225°C peak<br>Pb-Free Process, 245°C peak | J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1 |
| Solderability | 10X Magnification | J-STD-002, Para 4.2.5, Test S, 95% Coverage |
| Vibration (High Frequency) | 20g peak, 10-2000 Hz, 4 times in each of three axes (total 12) | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock | 50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes | MIL-STD-202, Method 213, Condition A |


This document and its contents are the property of Mini-Circuits.