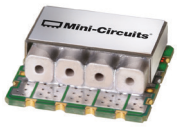
*Surface Mount*

# Bandpass Filter

# CBP-915C+

50Ω 902.5 to 927.5 MHz



*Generic photo used for illustration purposes only*
CASE STYLE: MP1766

## The Big Deal

- Narrow bandwidth
- Excellent Rejection
- High power handling
- Miniature shielded package

## Product Overview

CBP-915C+ is a ceramic-coaxial-resonator based bandpass filter in a shielded package fabricated using SMT technology. This filter offers outstanding close in rejection, low insertion loss and high power handling for use in scientific and medical (ISM) applications

## Key Features

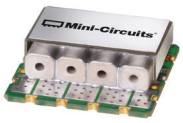
| Feature | Advantages |
|---|---|
| High Selectivity | The CBP-915C+ filter incorporates High-Q ceramic resonators that enables sharp rejection near passband. |
| Low Passband VSWR | This filter maintains typical VSWR over passband frequency range making this filter easier to integrate into receiver and transmitter RF chains with less concerns for in band frequency ripple. |
| Rugged construction | The CBP-915C+ has been qualified over wide range of thermal, mechanical and environmental conditions including withstanding the stress of extensive solder reflow cycles. |

*Surface Mount*

# Bandpass Filter

50Ω 902.5 to 927.5 MHz

# CBP-915C+



*Generic photo used for illustration purposes only*
CASE STYLE: MP1766

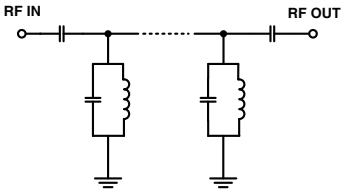
## Features

- Narrow bandwidth
- Excellent rejection
- High selectivity
- High power handling
- Miniature shielded package

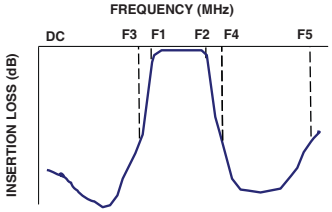
## Applications

- Industrial, Scientific and medical (ISM)
- Amateur radio
- Private and public land mobile
- Field disturbance sensors

## Functional Schematic




## Typical Frequency Response




***+RoHS Compliant***
*The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications*

## Electrical Specifications at 25°C

| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| **Pass Band** | Center Frequency | — | — | — | 915 | — | MHz |
| | Insertion Loss | F1-F2 | 902.5-927.5 | — | 1.10 | 2.00 | dB |
| | VSWR | F1-F2 | 902.5-927.5 | __ | 1.24 | 2.10 | :1 |
| **Stop Band, Lower** | Insertion Loss | DC-F3 | DC-830 | 20 | 27 | — | dB |
| | VSWR | DC-F3 | DC-830 | — | 20 | — | :1 |
| **Stop Band, Upper** | Insertion Loss | F4-F5 | 1005-1800 | 20 | 27 | — | dB |
| | VSWR | F4-F5 | 1005-1800 | — | 20 | — | :1 |

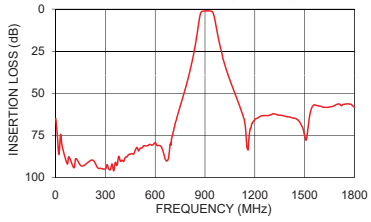
| Maximum Ratings | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 10W |

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

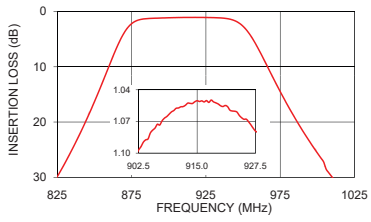
## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|---|---|---|---|---|
| 1.0 | 64.87 | 1222.18 | 902.5 | 10.72 |
| 500.0 | 84.13 | 145.00 | 904.0 | 10.64 |
| 800.0 | 40.38 | 44.34 | 905.5 | 10.59 |
| 824.0 | 30.32 | 34.89 | 907.0 | 10.53 |
| 830.0 | 27.49 | 32.18 | 908.5 | 10.50 |
| 844.0 | 19.94 | 23.90 | 910.0 | 10.45 |
| 860.0 | 9.73 | 9.94 | 911.5 | 10.44 |
| 872.0 | 3.03 | 2.57 | 913.0 | 10.41 |
| 900.0 | 1.11 | 1.18 | 914.5 | 10.42 |
| 902.5 | 1.10 | 1.17 | 915.0 | 10.42 |
| 915.0 | 1.05 | 1.12 | 916.5 | 10.42 |
| 927.5 | 1.08 | 1.10 | 917.5 | 10.44 |
| 952.0 | 3.25 | 3.08 | 919.0 | 10.47 |
| 967.0 | 10.30 | 13.63 | 920.5 | 10.49 |
| 988.0 | 20.69 | 38.69 | 922.0 | 10.54 |
| 1005.0 | 27.89 | 52.65 | 923.5 | 10.60 |
| 1012.0 | 30.70 | 54.70 | 925.0 | 10.68 |
| 1156.0 | 83.24 | 57.59 | 926.5 | 10.77 |
| 1500.0 | 74.93 | 48.46 | 927.0 | 10.81 |
| 1800.0 | 58.15 | 46.15 | 927.5 | 10.84 |

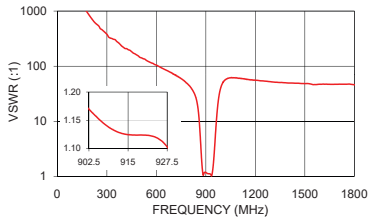
CBP-915C+
INSERTION LOSS (Full band)



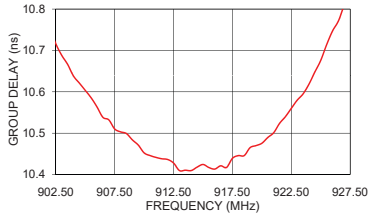

CBP-915C+
INSERTION LOSS (Pass band)




CBP-915C+
VSWR




CBP-915C+
GROUP DELAY

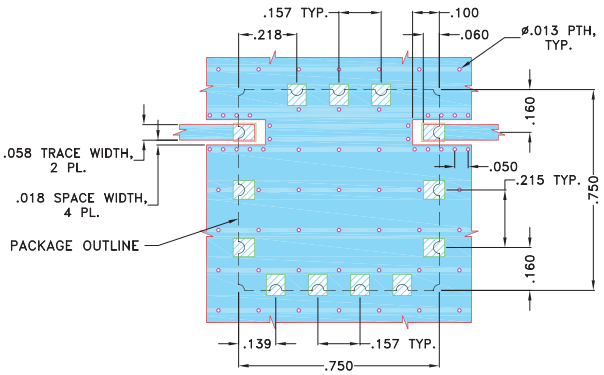



Notes
**A.** Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
**B.** Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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/MCLStore/terms.jsp

## Pad Connections

| | |
|---|---|
| INPUT | 1 |
| OUTPUT | 10 |
| GROUND | 2,3,4,5,6,7,8,9,11,12,13 |

***Demo Board MCL P/N: TB-684+***
***Suggested PCB Layout (PL-373)***



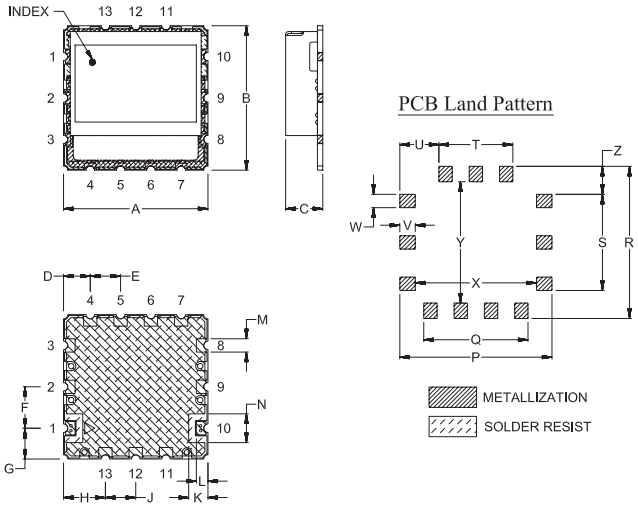

NOTES:

1. TRACE WIDTH IS SHOWN FOR OAK (OAK-602) WITH DIELECTRIC THICKNESS .022"±.0015". 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

## Outline Drawing




## Outline Dimensions ( inch / mm )

| A | B | C | D | E | F | G | H | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **.750** | **.750** | **.210** | **.139** | **.157** | **.215** | **.160** | **.218** | **.157** | **.100** | **.060** | **.069** | **.149** |
| 19.05 | 19.05 | 5.33 | 3.53 | 3.99 | 5.46 | 4.06 | 5.54 | 3.99 | 2.54 | 1.52 | 1.75 | 3.78 |

| P | Q | R | S | T | U | V | W | X | Y | Z | | wt, |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **.790** | **.541** | **.790** | **.499** | **.384** | **.203** | **.080** | **.069** | **.630** | **.630** | **.145** | | grams |
| 20.07 | 13.74 | 20.07 | 12.67 | 9.75 | 5.16 | 2.03 | 1.75 | 16.00 | 16.00 | 3.68 | | 4.6 |

*Note: Please refer to case style drawing for details*

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Mini-Circuits:

CBP-915C+