

# Bandpass Filter

## BFCN-2900+

50Ω 2700 to 3100 MHz



CASE STYLE: FV1206-1  
PRICE: \$3.95 ea. QTY (20)

### Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature   | -55°C to 100°C |
| RF Power Input*       | 1.5W at 25°C   |

\*Passband rating, derate linearly to 0.25W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

|        |         |
|--------|---------|
| RF IN  | 1       |
| RF OUT | 3       |
| GROUND | 2,4,5,6 |

### Features

- Small size
- Temperature stable
- LTCC construction

### Applications

- Harmonic rejection
- Transmitters / receivers

#### +RoHS Compliant

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

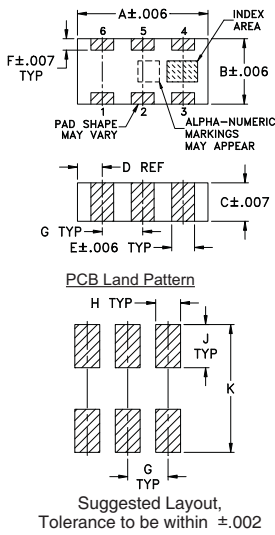
### Bandpass Filter Electrical Specifications<sup>1,2</sup> (T<sub>AMB</sub> = 25°C)

| CENTER FREQ. (MHz) | PASSBAND (MHz) (Loss < 3dB) | STOPBANDS (MHz) |      |               |             | VSWR (:1) |      |          |
|--------------------|-----------------------------|-----------------|------|---------------|-------------|-----------|------|----------|
|                    |                             | Loss > 20dB     |      | Loss 25dB Typ |             | Passband  |      | Stopband |
| F <sub>c</sub>     | F1 - F2                     | F3              | F4   | F5            | F6          | Typ.      | Max. | Typ.     |
| 2900               | 2700 - 3100                 | 1850            | 4200 | 1800          | 4900 - 7000 | 2.3       | 3.6  | 20       |

1. Measured on Mini-Circuits Characterization Test Board TB-285.

2. This filter is not intended for use as a DC Blocking circuit element. In Application where DC voltage is present at either input or output ports, blocking capacitors are required at the corresponding RF port.

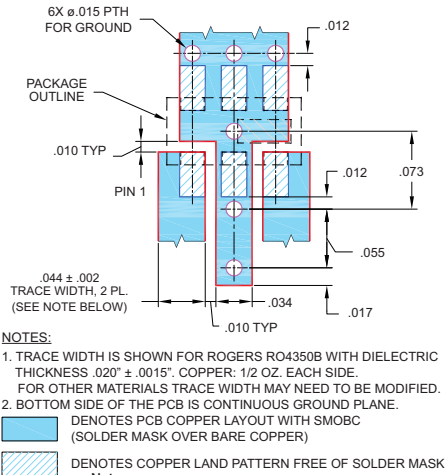
### Outline Drawing



### Outline Dimensions (inch/mm)

| A    | B    | C    | D    | E     | F    |
|------|------|------|------|-------|------|
| .126 | .063 | .035 | .024 | .022  | .011 |
| 3.20 | 1.60 | 0.89 | 0.61 | 0.56  | 0.28 |
| G    | H    | J    | K    | wt.   |      |
| .039 | .024 | .042 | .123 | grams |      |
| 0.99 | 0.61 | 1.07 | 3.12 | .020  |      |

### Demo Board MCL P/N: TB-285 Suggested PCB Layout (PL-158)

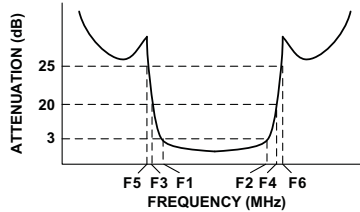


- NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

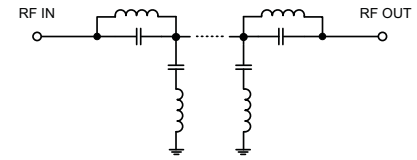
#### Notes

- 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Typical Frequency Response



### Functional Schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 50              | 68.92               | 1737.18   |
| 500             | 59.22               | 289.53    |
| 1000            | 51.09               | 82.73     |
| 1800            | 29.79               | 42.38     |
| 1850            | 27.43               | 39.49     |
| 2200            | 12.97               | 18.70     |
| 2380            | 6.22                | 6.91      |
| 2480            | 3.38                | 3.42      |
| 2700            | 1.71                | 2.00      |
| 2900            | 1.98                | 2.38      |
| 3100            | 1.65                | 1.77      |
| 3400            | 3.55                | 2.87      |
| 3500            | 6.47                | 5.51      |
| 3650            | 12.39               | 10.69     |
| 4200            | 26.22               | 13.49     |
| 4900            | 33.76               | 17.57     |
| 5200            | 41.01               | 20.45     |
| 5500            | 31.08               | 23.18     |
| 7000            | 26.56               | 30.49     |

