

Surface Mount

# Dual passband Filter

**B2P-A535950+**

50Ω      470 to 600 MHz, 940 to 960 MHz



Generic photo used for illustration purposes only  
CASE STYLE: HQ1157

## The Big Deal

- Dual passband
- Wireless audio applications
- Miniature shielded package

## Product Overview

The B2P-A535950+ is a 50Ω dual passband filter in a shielded package fabricated using SMT technology. Passband 1 covers 470 to 600 MHz and passband 2 covers 940 to 960 MHz. This filter is built with high Q capacitors and inductors for high reliability.

## Key Features

| Feature                  | Advantages                                                                       |
|--------------------------|----------------------------------------------------------------------------------|
| Dual Passband            | Filter solution in single package to enable passing of two frequency bands.      |
| Low insertion loss       | Can be used in Transmitters/Receivers application.                               |
| Good rejection           | Immediate rejection to attenuate unwanted nearby frequencies.                    |
| Compact shielded package | The small surface mount package enables the B2P-A535950+ used in compact design. |

### Notes

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



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### Features

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- Miniature shielded package

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### Electrical Specifications at 25°C

| Parameter        |                  | F#    | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|------------------|------------------|-------|-----------------|------|------|------|------|
| Pass Band        | Center Frequency | -     | -               | —    | 535  | —    | MHz  |
|                  | Insertion Loss   | F1-F2 | 470-600         | —    | 0.9  | 1.2  | dB   |
|                  |                  | F3-F4 | 940-960         | —    | 1.3  | 2.2  |      |
| Pass Band        | VSWR             | F1-F2 | 470-600         | —    | 1.6  | 1.92 | :1   |
|                  |                  | F3-F4 | 940-960         | —    | 1.5  | 1.92 |      |
| Stop Band, Lower | Insertion Loss   | DC-F5 | DC-365          | 20   | 25   | —    | dB   |
|                  | VSWR             | DC-F5 | DC-365          | —    | 20   | —    | :1   |
| Stop Band, Mid   | Insertion Loss   | F6-F7 | 710-795         | 15   | 20   | —    | dB   |
|                  | VSWR             | F6-F7 | 710-795         | —    | 20   | —    | :1   |
| Stop Band, Upper | Insertion Loss   | F8-F9 | 1075-1500       | 20   | 25   | —    | dB   |
|                  | VSWR             | F8-F9 | 1075-1500       | —    | 20   | —    | :1   |

### Maximum Ratings

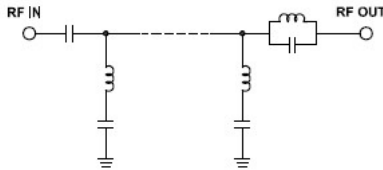
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power Input        | 1 W            |

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

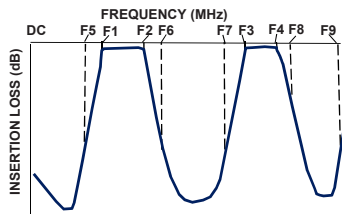
### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) | Frequency (MHz) | Group Delay (nsec) |
|-----------------|---------------------|-----------|-----------------|--------------------|
| 10              | 46.37               | 664.82    | 470             | 3.86               |
| 300             | 30.60               | 188.44    | 480             | 3.50               |
| 365             | 33.32               | 74.10     | 490             | 3.25               |
| 379             | 20.49               | 49.29     | 500             | 3.08               |
| 424             | 3.09                | 3.92      | 520             | 2.88               |
| 470             | 0.52                | 1.04      | 535             | 2.84               |
| 535             | 0.53                | 1.30      | 560             | 2.93               |
| 600             | 0.72                | 1.26      | 580             | 3.19               |
| 710             | 22.89               | 21.95     | 555             | 2.90               |
| 795             | 23.45               | 7.36      | 565             | 2.98               |
| 940             | 0.94                | 1.15      | 575             | 3.11               |
| 950             | 0.99                | 1.15      | 600             | 3.67               |
| 960             | 1.07                | 1.15      | 940             | 3.98               |
| 995             | 3.13                | 2.76      | 945             | 4.07               |
| 1050            | 20.33               | 19.09     | 947             | 4.12               |
| 1070            | 30.99               | 23.91     | 950             | 4.20               |
| 1075            | 34.96               | 24.80     | 955             | 4.36               |
| 1300            | 38.43               | 39.38     | 958             | 4.47               |
| 1400            | 45.78               | 40.14     | 959             | 4.52               |
| 1500            | 52.91               | 40.81     | 960             | 4.56               |

### Functional Schematic

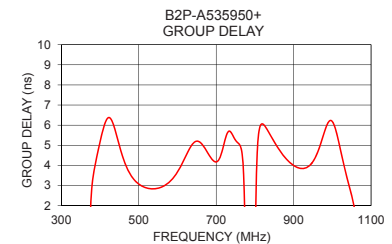
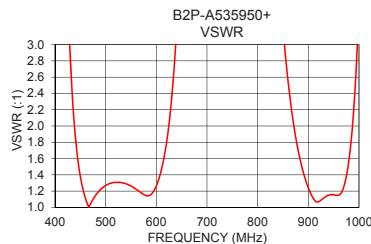
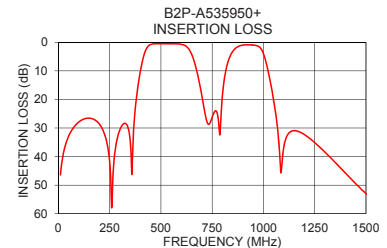
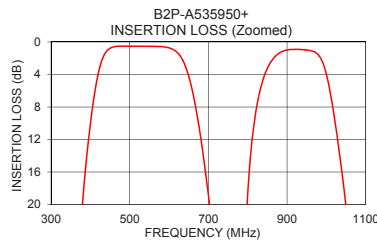


### Typical Frequency Response



### +RoHS Compliant

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



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|        |                              |
|--------|------------------------------|
| INPUT  | 1                            |
| OUTPUT | 8                            |
| GROUND | 2,3,4,5,6,7,9,10,11,12,13,14 |

[illegible]

1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .025"±.002". 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.

|      |       |      |      |      |       |       |       |
|------|-------|------|------|------|-------|-------|-------|
| A    | B     | C    | D    | E    | F     | G     | H     |
| .365 | 1.360 | .35  | .100 | .180 | .140  | .100  | .100  |
| 9.27 | 34.54 | 8.89 | 2.54 | 4.57 | 3.56  | 2.54  | 2.54  |
| J    | K     | L    | M    | N    | P     | Q     | Wt.   |
| .305 | .150  | .120 | .275 | .152 | .405  | 1.400 | grams |
| 7.75 | 3.81  | 3.05 | 6.99 | 3.86 | 10.29 | 35.56 | 4.0   |

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