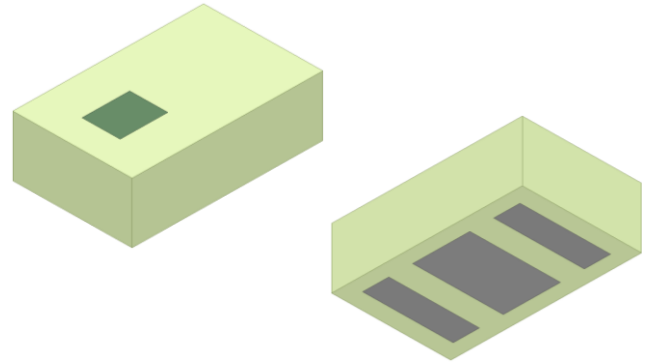


## 4.7 GHz Band Pass Filter

- 4400 - 5000 MHz passband
- High attenuation for bands outside passband
- Low loss and high out-of-band selectivity
- SMD, EIA 0805
- RoHS complaint is standard (NiSn). Optional non-RoHS complaint Tin Lead (SnPb) termination style available upon request (*Page 2 for details*).



### General Specifications<sup>1 2</sup>

|                        |                   |          |          |
|------------------------|-------------------|----------|----------|
| Impedance ( $\Omega$ ) | 4400 - 5000 MHz   |          | 50       |
| Insertion Loss (dB)    | 4400 - 5000 MHz   | 0.7 Typ. | 0.9 Max. |
| Return Loss (dB)       | 4400 - 5000 MHz   |          | 10 Min.  |
| Attenuation (dB)       | 500 - 2690 MHz    | 36 Typ.  | 30 Min.  |
|                        | 2700 - 3800 MHz   | 18 Typ.  | 15 Min.  |
|                        | 8800 - 10000 MHz  | 30 Typ.  | 15 Min.  |
|                        | 13200 - 15000 MHz | 30 Typ.  | 15 Min.  |

### Maximum Ratings

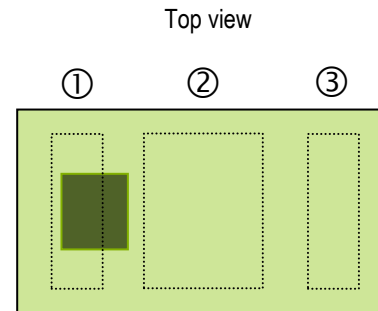
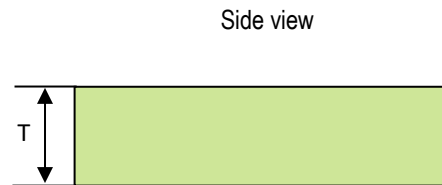
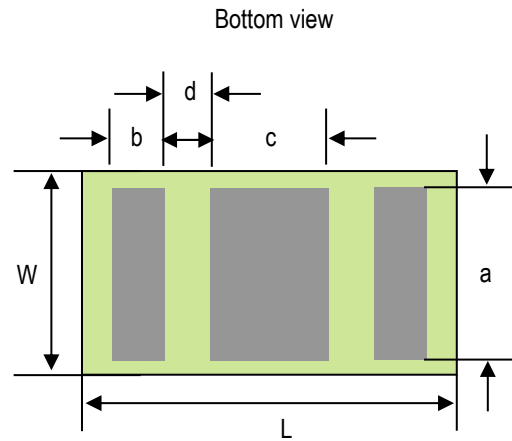
|   |   |
|---|---|
| Power Capacity (W)  | 3 Max. (CW)                                 |
| Operating Temperature ( $^{\circ}\text{C}$ )                            | -40 to +85                                  |
| Recommended Storage Conditions post-installation ( $^{\circ}\text{C}$ ) | -40 to +85                                  |
| Recommended Storage Conditions and Period for Unused T&R Product        | 45% - 60% RH<br>+5 to +35<br>18 Months Max. |

<sup>1</sup> Typical value represents average measurement at 25°C. Min./Max. values represent measurements over specified operating temperature.

<sup>2</sup> General specifications measured on Johanson's evaluation board P/N 4700BP15A060001CE1.

**Mechanical Dimensions**

|          | Inches |   |       | Millimeters |   |      |
|----------|--------|---|-------|-------------|---|------|
| <b>L</b> | 0.079  | ± | 0.006 | 2.00        | ± | 0.15 |
| <b>W</b> | 0.049  | ± | 0.004 | 1.25        | ± | 0.10 |
| <b>T</b> | 0.026  |   | max.  | 0.65        |   | max. |
| <b>a</b> | 0.037  | ± | 0.004 | 0.95        | ± | 0.10 |
| <b>b</b> | 0.011  | ± | 0.004 | 0.28        | ± | 0.10 |
| <b>c</b> | 0.024  | ± | 0.004 | 0.60        | ± | 0.10 |
| <b>d</b> | 0.010  | ± | 0.002 | 0.25        | ± | 0.05 |



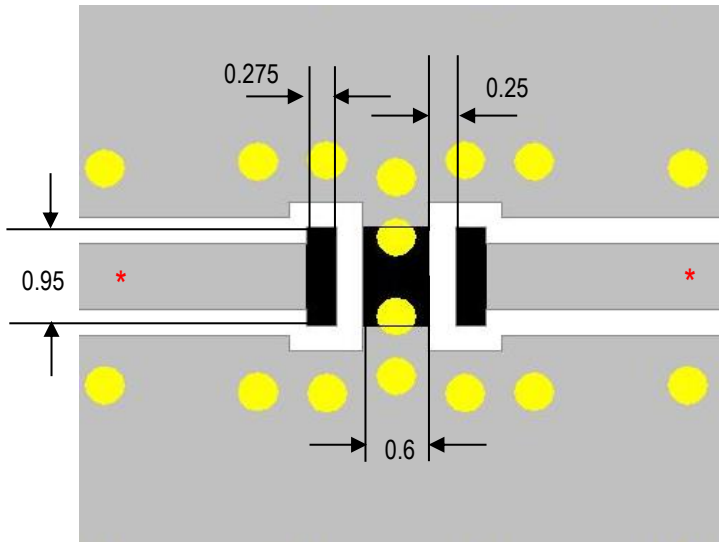
**Terminal Configuration<sup>3</sup>**

| Pin Number | Function     |
|------------|--------------|
| 1          | INPUT/OUTPUT |
| 2          | GND          |
| 3          | INPUT/OUTPUT |

<sup>3</sup> The standard termination type is Nickel Tin. Optional Tin Lead (SnPb) style is available upon request. Go to: <https://www.johansontechnology.com/request-a-quote> to contact us. Typical Soldering Profile for all termination styles: <https://www.johansontechnology.com/ipcsoldering-profile>

**Recommended PCB Layout**


Note: Mount device with colored mark facing up.



Units in mm

 Solder Resist

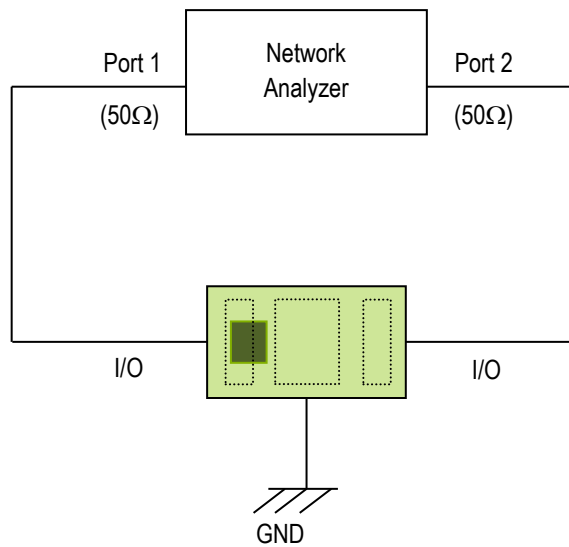
 Land

 Through-hole ( $\phi$  0.35)

\* Transmission line width should be designed to match 50 $\Omega$  characteristic impedance, depending on PCB material and thickness.

If you'd like the CAD PCB layout or have any questions, contact our application engineers at <https://www.johansontechnology.com/ask-a-question>

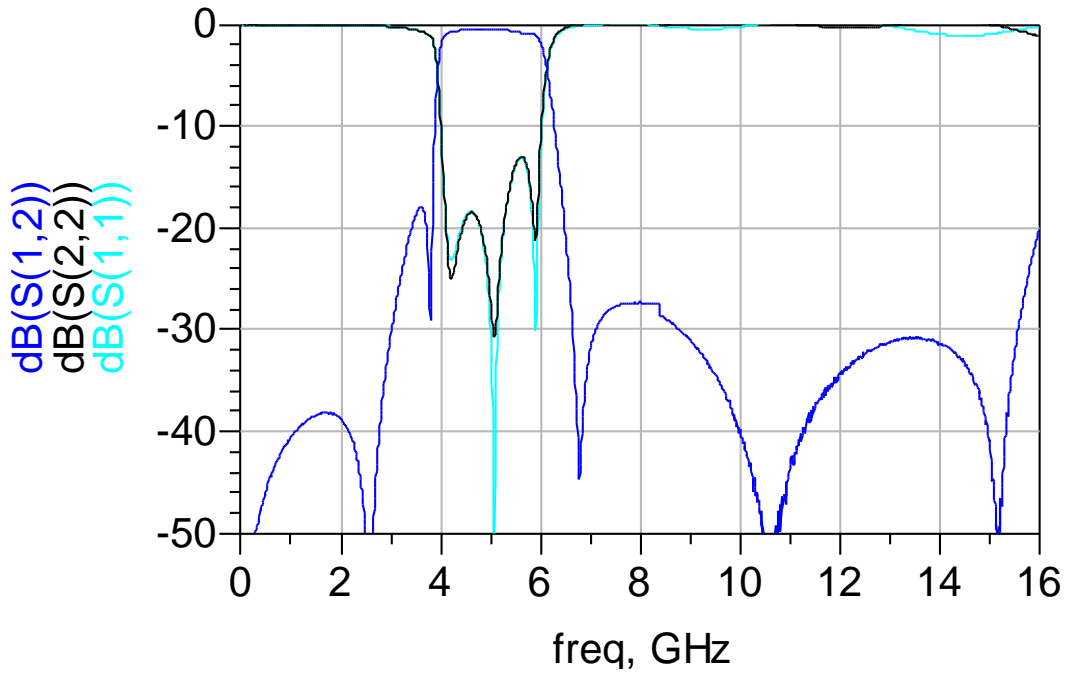
**Measuring Diagram**





RF Measurement (T = 25°C)

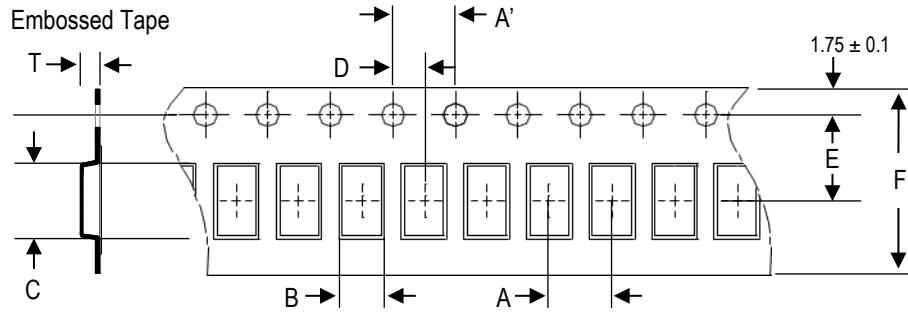
Insertion Loss, Return Loss, Attenuation



S-parameter and layout file available upon request. Please contact <https://www.johansontechnology.com/ask-a-question>

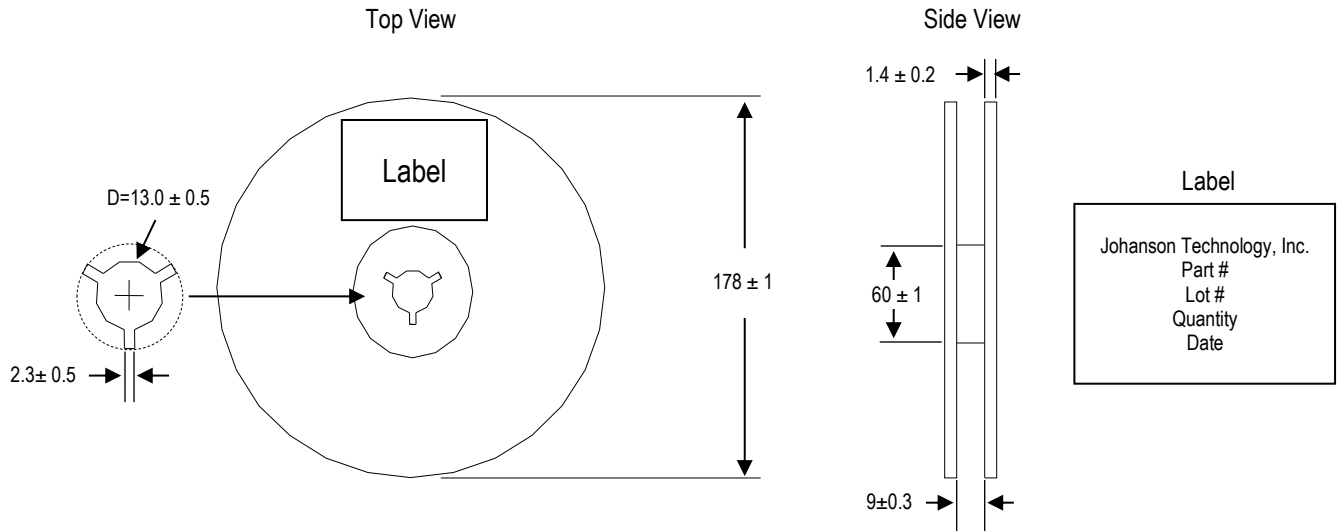
**Tape and Reel Specification (Units in mm)**

**Tape Dimensions**

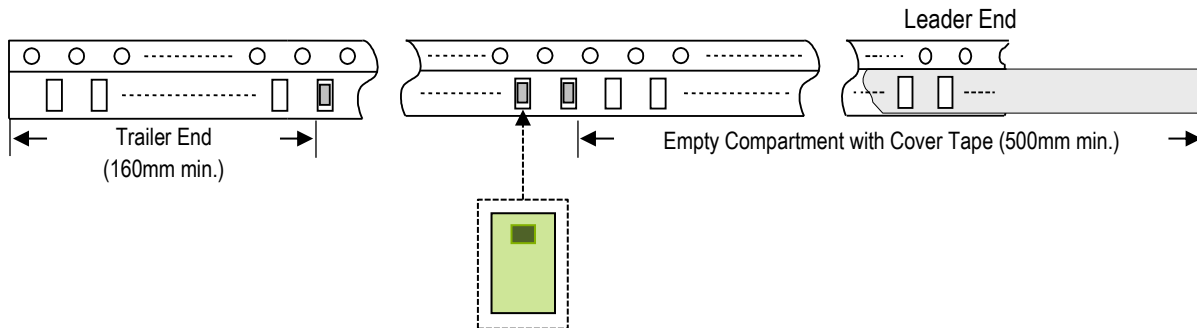


| A       | A'      | B         | C         | D        | E       | F       | T         | Quantity/reel | Tape material      |
|---------|---------|-----------|-----------|----------|---------|---------|-----------|---------------|--------------------|
| 4.0±0.1 | 4.0±0.1 | 1.35±0.05 | 2.15±0.05 | 2.0±0.05 | 3.5±0.1 | 8.0±0.1 | 1.65±0.05 | 4,000pcs.     | Plastic (Embossed) |

**Reel Dimensions**



**Leader and Trailer Dimensions**



**Orderable Part Number**

| Packaging Style                        | Part Number                                       | Termination |
|--|---|-------------|
| Bulk (loose pcs.)                      | 4700BP15A0600001B                                 | Nickel Tin  |
| T & R (7" Reel Embossed Tape)          | 4700BP15A0600001E (Qty: 4,000 pcs/reel)           |             |
| Evaluation Board with 2 SMA Connectors | 4700BP15A0600001CE1                               |             |
| Bulk (loose pcs.)                      | 4700BP15A0600003B (Legacy P/N: 4700BP15A0600S/Pb) | Tin Lead*   |
| Waffle Pack                            | 4700BP15A0600003W (Legacy P/N: 4700BP15A0600W/Pb) |             |

\*For questions regarding Tin Lead termination, contact our engineers at <https://www.johansontechnology.com/ask-a-question>

**Important Links**

[4700BP15A0600001E Product Page](#)

[More Band Pass Filters](#)

[Antenna Tuning, Optimization, and Validation Services](#)

[Soldering Information](#)

[MSL Information](#)

[Packaging Information](#)

[Recommended Storage Condition and Max Shelf Life](#)

[RoHS Compliance](#)

**Johanson Technology, Inc. reserves the right to make design changes without notice.**

**All sales are subject to Johanson Technology, Inc. terms and conditions.**