

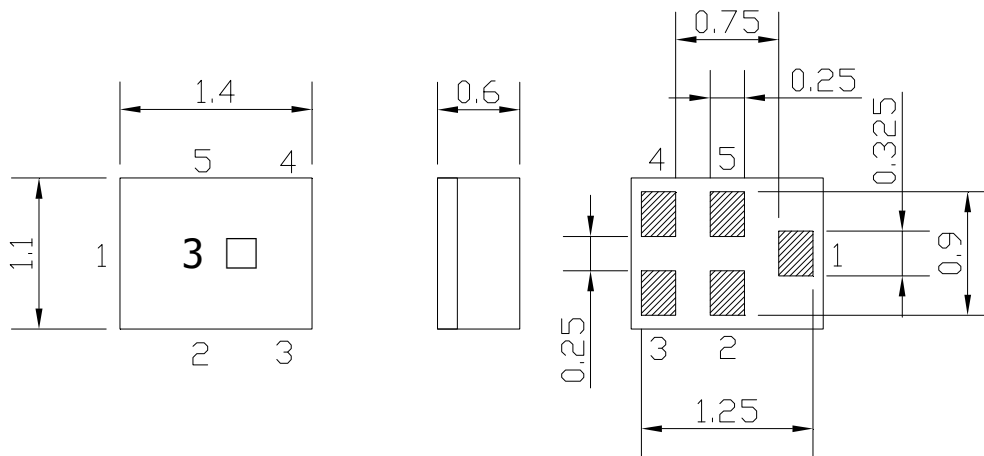
# SAW Bandpass Filter F9156



## Features

- RF bandpass filter
- No matching 50Ω single-ended operation
- Ceramic Surface Mounted Device Package ( 1.4 mm × 1.1 mm )
- RoHS Compliant
- This part is compliant with AEC-Q200

## Package Dimensions



Dimensions shown are nominal in millimeters

Body : Al<sub>2</sub>O<sub>3</sub> Ceramic


Terminations : Au plating 0.3 ~ 1.0 um, Over a 1.27 ~ 8.89 um  
Ni Plating

| Pin Configuration |        |
|-------------------|--------|
| 1                 | Input  |
| 4                 | Output |
| 2, 3, 5           | Ground |

## Maximum Ratings

| Parameter                   | Unit | Minimum | Typical | Maximum |
|-----------------------------|------|---------|---------|---------|
| Operating Temperature Range | ℃    | -40     | 25      | 85      |
| Storage Temperature Range   | ℃    | -40     | 25      | 85      |
| Power Handling Capability   | dBm  | -       | -       | 10      |

Electrostatics Sensitive Device (ESD)

|   |   |           |             |     |
|---|---|-----------|-------------|-----|
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|   |   | Rev. Date | 2019-02-28  |     |
|   |   | Rev.      | NCUB01-AS04 | 1/6 |

# SAW Bandpass Filter F9156




## Specifications

$F_c = 915 \text{ MHz}$

|  | Minimum | Typical | Maximum | Unit   |
|--|---------|---------|---------|--------|
| Center Frequency ( $F_c$ )                       | -       | 915     | -       | MHz    |
| Insertion Loss ( $F_c \pm 13\text{MHz}$ )        | -       | 1.9     | 2.5     | dB     |
| Amplitude Ripple ( $F_c \pm 13\text{MHz}$ )      | -       | 0.8     | 1.5     | dB p-p |
| VSWR ( $F_c \pm 13\text{MHz}$ )                  | -       | 1.6     | 2.0     |        |
| Group Delay Variation ( $F_c \pm 13\text{MHz}$ ) | -       | 11      | 50      | nsec   |
| Absolute Attenuation                             |         |         |         |        |
| 10 ~ 800 MHz                                     | 45      | 46      | -       | dB     |
| 800 ~ 845 MHz                                    | 40      | 44      | -       |        |
| 845 ~ 880 MHz                                    | 35      | 38      | -       |        |
| 947 ~ 970 MHz                                    | 13      | 28      | -       |        |
| 970 ~ 1020 MHz                                   | 33      | 47      | -       |        |
| 1020 ~ 1200 MHz                                  | 35      | 43      | -       |        |
| 1200 ~ 3000 MHz                                  | 28      | 34      | -       |        |
| Input/Output Impedance                           |         | 50      |         | Ohms   |

### Notes :

- 1) All specifications are based on the matching schematic shown below, measured by Agilent Network analyzer and full 2 port calibration.
- 2) Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances

|   |   |           |             |     |
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# SAW Bandpass Filter F9156



## Matching Schematic

( Actual matching values may vary due to PCB layout and parasitics )

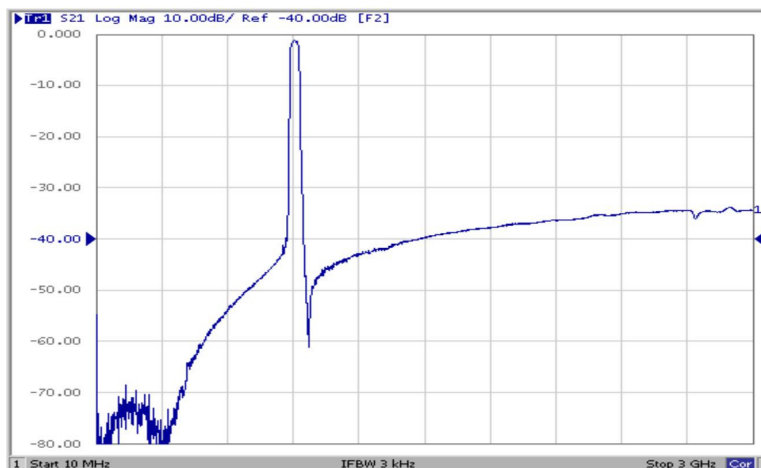
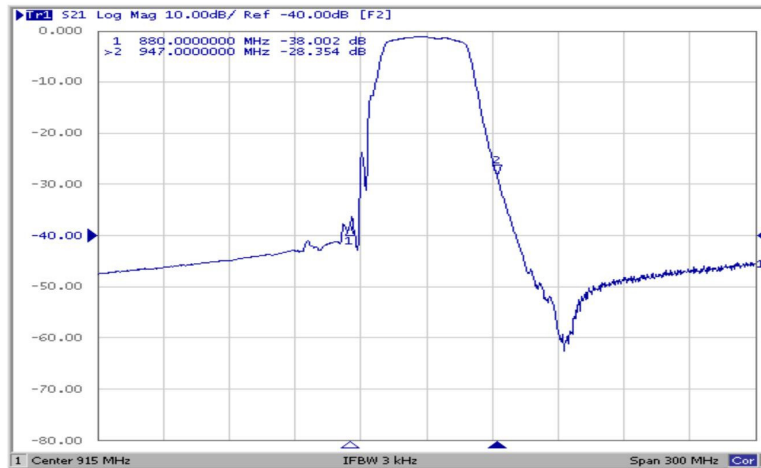
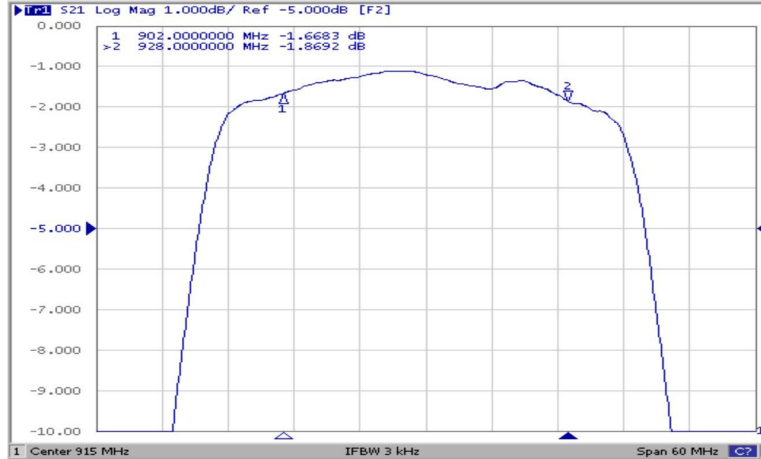



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# SAW Bandpass Filter F9156



## Typical Performance ( at 25°C )

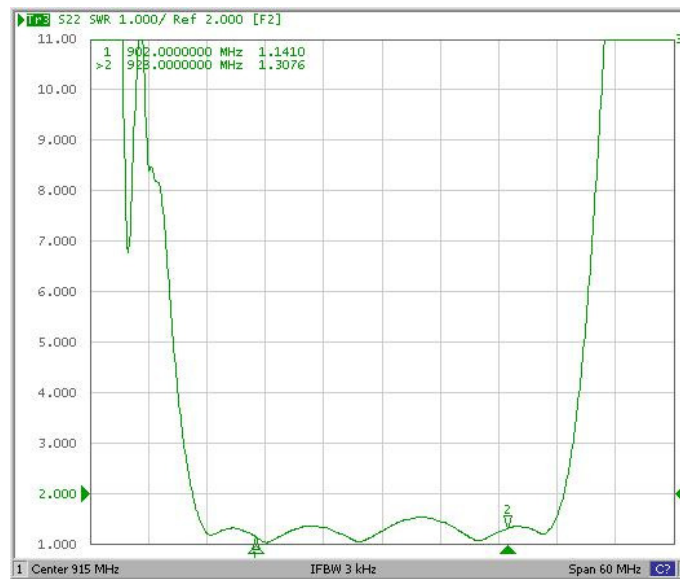
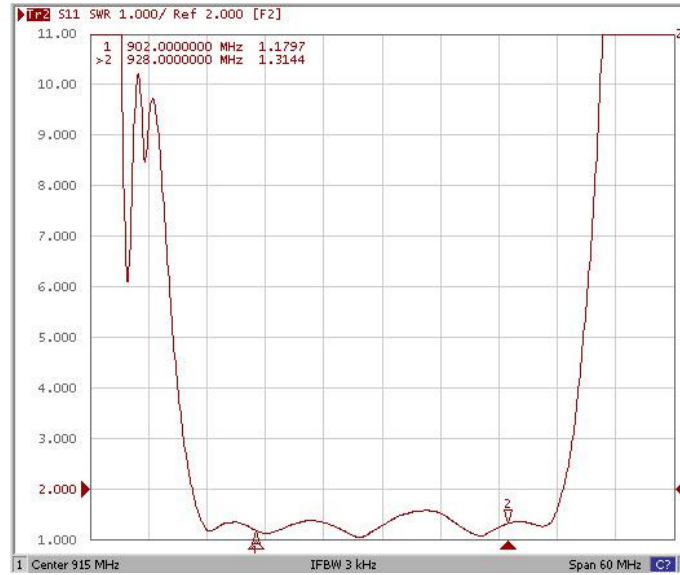


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# SAW Bandpass Filter F9156



## Input / Output VSWR Charts



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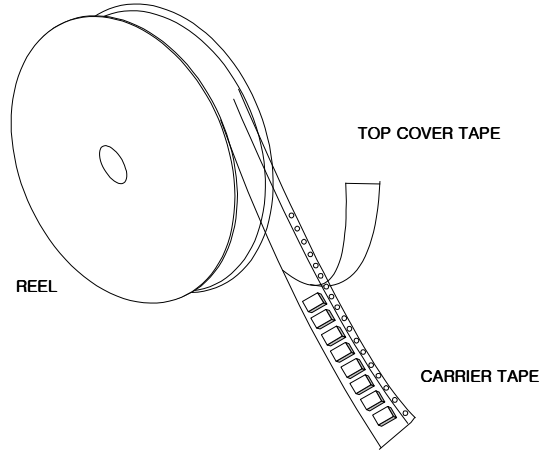
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| Part No.  | F9156       |     |
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# SAW Bandpass Filter F9156



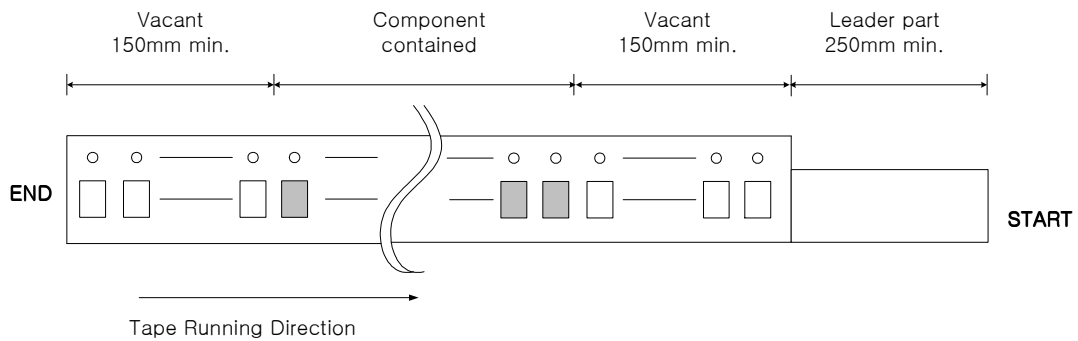
## Packing Specification

1. Reeling Quantity : 3000 pcs / 13" reel ( or 1000 pcs / 7" reel )
2. Taping Structure : The tape shall be wound around the reel in the direction shown below.



## Tape Specification

### 1. Leader part and vacant position specification

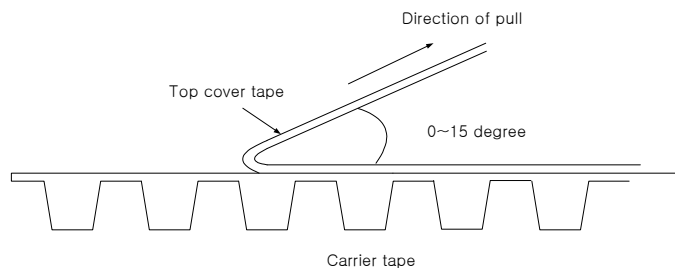


### 2. Tensile strength of carrier tape

4.4N/mm width

### 3. Top cover tape adhesion

- 1) pull off angle : 0~15°
- 2) speed : 300mm/min
- 3) force : 20~70g



|  |   |           |             |     |
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