

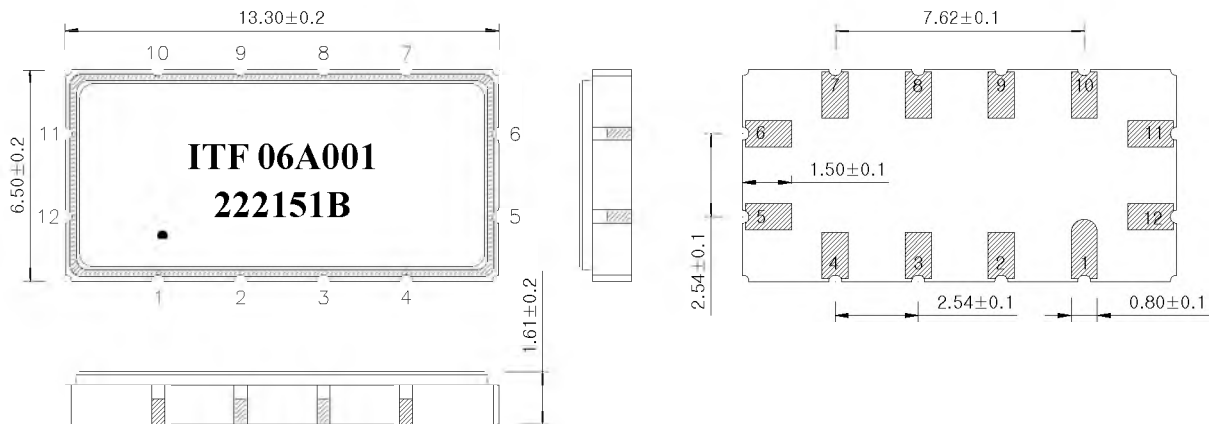
# Bandpass Filter 222151B



## 1. Features

- IF bandpass filter
- Low-Loss Filter
- Single-ended operation
- Ceramic Surface Mount Device(SMD) Package
- Maximum Storage Temperature Range : -40 °C ~ 85 °C
- Electrostatics Sensitive Device (ESD)

## 2. Package Dimension



**Package : S1365**

Dimensions shown are nominal in millimeters

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

Lid : Kovar, Ni Plated

Termination : Au plating 0.3 ~ 1.0um, over a 1.27 ~ 8.89um Ni Plating

| Pin Configuration |             |
|-------------------|-------------|
| 11                | Input       |
| 5                 | Output      |
| 6, 12             | Ground      |
| Other             | Case ground |

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## 3. Specifications

Fo = 60.0 MHz

Terminating source impedance : 50Ω and matching network

Terminating load impedance : 50Ω and matching network

| Operating temperature range : -10℃ ~ +70℃ |       | Minimum | Typical | Maximum |
|-------------------------------------------|-------|---------|---------|---------|
| Center Frequency                          | MHz   | -       | 60.0    | -       |
| Insertion Loss                            | dB    | -       | 14.5    | 17.0    |
| 1dB Bandwidth                             | MHz   | 20.0    | 20.7    | -       |
| 3dB Bandwidth                             | MHz   | -       | 21.5    | -       |
| 40dB Bandwidth                            | MHz   | -       | 24.8    | 25.0    |
| Amplitude Ripple (Fo +/- 9.75 MHz)        | dB    | -       | 0.6     | 1.0     |
| Group Delay Variation (Fo +/- 9.75 MHz)   | nsec  | -       | 40      | 80      |
| Absolute Delay                            | usec  | -       | 1.29    | -       |
| Ultimate Rejection                        | dB    | 40      | 45      |         |
| Temperature Coefficient of Frequency      | ppm/℃ | -       | -86     | -       |

| Room temperature : + 25℃                |      | Minimum | Typical | Maximum |
|-----------------------------------------|------|---------|---------|---------|
| Center Frequency                        | MHz  | -       | 60.0    | -       |
| Insertion Loss                          | dB   | -       | 14.5    | 16.5    |
| Amplitude Ripple (Fo +/- 10.0 MHz)      | dB   | -       | 0.6     | 1.0     |
| Group Delay Variation (Fo +/- 10.0 MHz) | nsec | -       | 40      | 80      |

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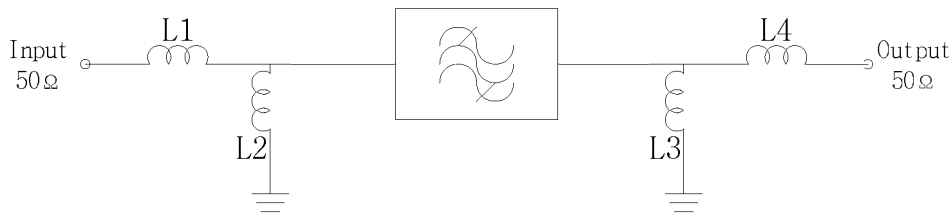


## Notes :

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

## 4. Matching Schematic

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



L1 = 120 nH, L2 = 220 nH

L3 = 220 nH, L4 = 68 nH

## 5. Marking Configuration

ITF<sup>1)</sup>06A001<sup>2)</sup>

222151B<sup>3)</sup>

●<sup>4)</sup>

1) Manufacturer name

2) Lot Number

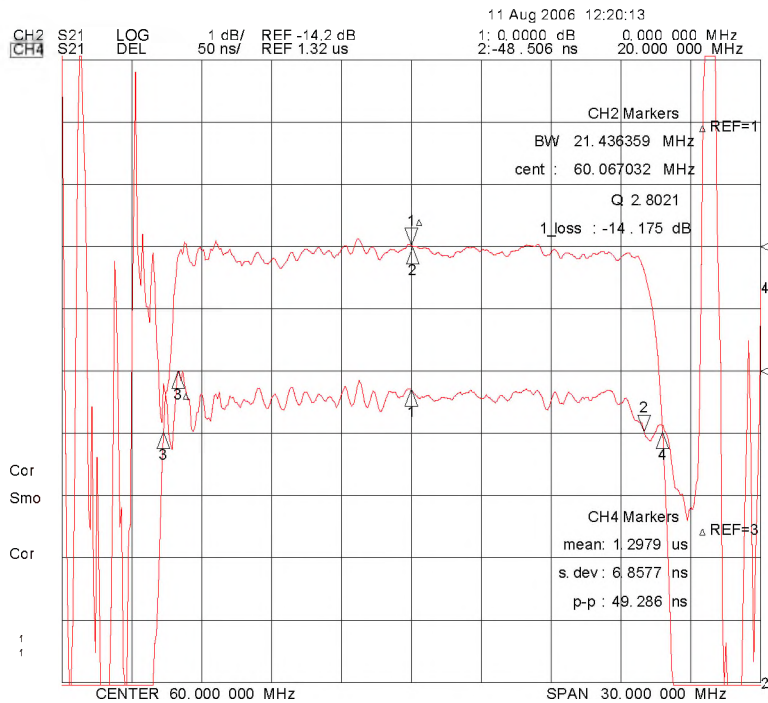
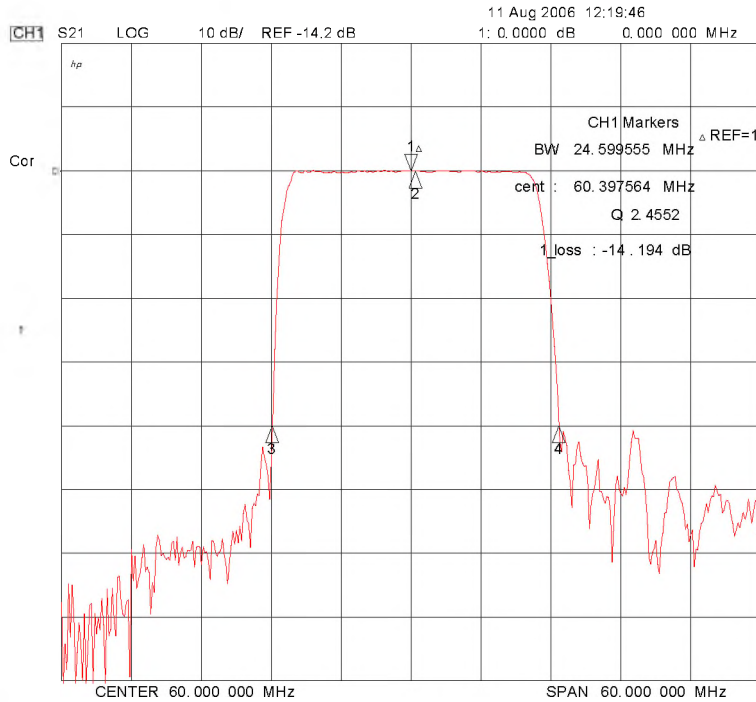
3) Part Number

4) Pad Number 1 Index

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## 6. Typical Performance ( at +25°C )



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