

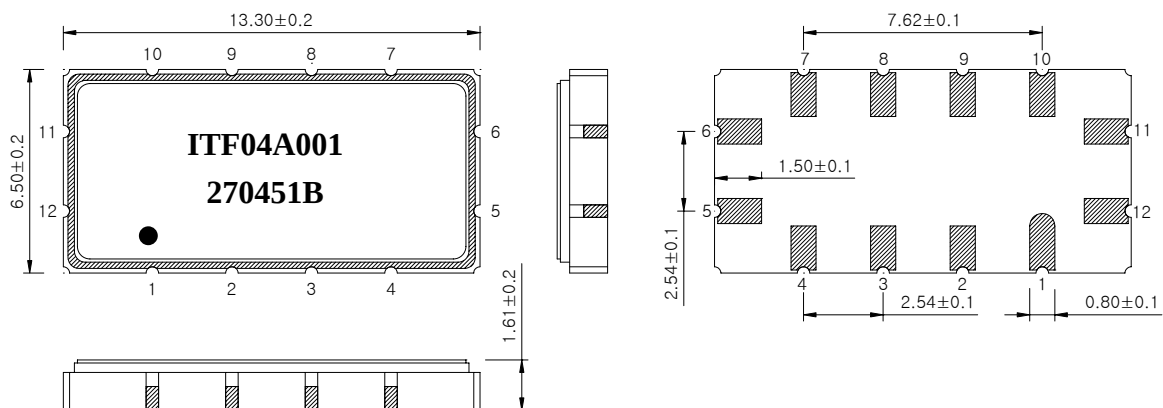
# SAW Bandpass Filter 270451B



## 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 Dimensions



### Package : S1365

Dimensions shown are nominal in millimeters

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

Lid : Kovar, Ni Plated

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

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

|                                                                                                                     |                                                                                                                                   |           |             |     |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|-----|
| <br>Integrated Technology Future | <b>ITF Co., Ltd.</b><br>102-901, Bucheon Technopark 364,<br>Samjeong-Dong, Ojeong-Gu, Bucheon-City,<br>Gyeonggi-Do, Korea 421-809 | Part No.  | 270451B     |     |
|                                                                                                                     |                                                                                                                                   | Rev. Date | 2004-06-09  |     |
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## 3. Specifications

Fo = 70.0 MHz

Terminating source impedance : 50Ω and matching network

Terminating load impedance : 50Ω and matching network

| Operating Temperature Range : -40℃ ~ +85℃ |        | Minimum | Typical | Maximum |
|-------------------------------------------|--------|---------|---------|---------|
| Center Frequency                          | MHz    | 69.5    | 70.0    | 70.5    |
| Insertion Loss                            | dB     | -       | 7.3     | 9.5     |
| 1dB Bandwidth                             | MHz    | 4.0     | 4.3     | -       |
| 3dB Bandwidth                             | MHz    | 4.6     | 4.9     | -       |
| 40dB Bandwidth                            | MHz    | -       | 7.2     | 7.6     |
| Amplitude Ripple (Fo +/- 1.5 MHz)         | dB     | -       | 0.5     | 1.0     |
| Group Delay Variation (Fo +/- 1.5 MHz)    | nsec   | -       | 70      | 120     |
| Phase Linearity(Fo +/- 1.225 MHz)         | degree | -       | 3.5     | 5.0     |
| Absolute Delay                            | usec   | -       | 1.27    | -       |
| Relative Attenuation                      |        |         |         |         |
| at 0.1 to 66.0 MHz                        | dB     | 45      | 50      | -       |
| at 68.0 to 72.0 MHz                       | dB     | -       | 2.0     | 3.0     |
| at 74.0 to 120.0 MHz                      | dB     | 35      | 41      | -       |
| Temperature Coefficient of Frequency      | ppm/℃  | -       | -86     | -       |

### 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

|                                                                                     |                                                                                                                                   |           |             |     |
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| Ambient temperature range : 25℃         |        | Minimum | Typical | Maximum |
|-----------------------------------------|--------|---------|---------|---------|
| Center Frequency                        | MHz    | 69.85   | 70.0    | 70.15   |
| Insertion Loss                          | dB     | -       | 7.3     | 8.0     |
| 1dB Bandwidth                           | MHz    | 4.0     | 4.3     | -       |
| 3dB Bandwidth                           | MHz    | 4.6     | 4.9     | -       |
| 40dB Bandwidth                          | MHz    | -       | 7.2     | 7.6     |
| Amplitude Ripple (Fo +/- 1.85 MHz)      | dB     | -       | 0.5     | 1.0     |
| Group Delay Variation (Fo +/- 1.85 MHz) | nsec   | -       | 70      | 120     |
| Phase Linearity(Fo +/- 1.575 MHz)       | degree | -       | 3.5     | 5.0     |
| Absolute Delay                          | usec   | -       | 1.27    | -       |
| Relative Attenuation                    |        |         |         |         |
| at 0.1 to 66.0 MHz                      | dB     | 45      | 50      | -       |
| at 68.0 to 72.0 MHz                     | dB     | -       | 2.0     | 3.0     |
| at 74.0 to 120.0 MHz                    | dB     | 35      | 41      | -       |
| Temperature Coefficient of Frequency    | ppm/°C | -       | -86     | -       |

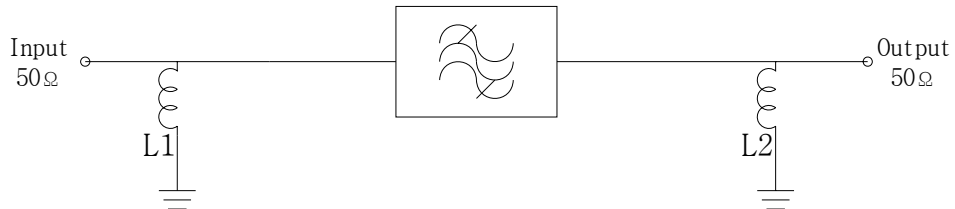
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## 4. Matching Schematic

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



L1 = 120 nH,      L2 = 82 nH

## 5. Marking Configuration

ITF<sup>1)</sup> 04A001<sup>2)</sup>

270451B<sup>3)</sup>

●<sup>4)</sup>

1) Manufacturer name

2) Lot Number

3) Part Number

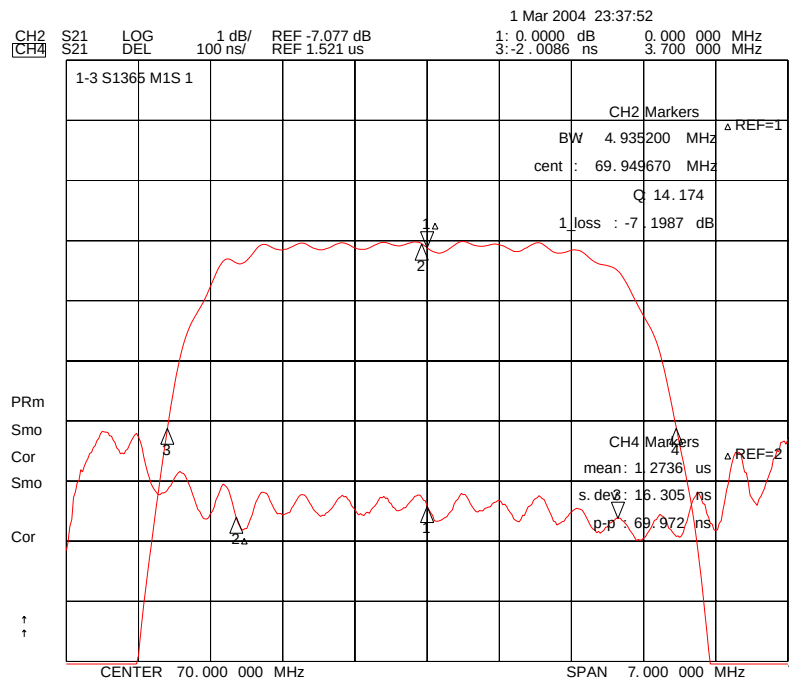
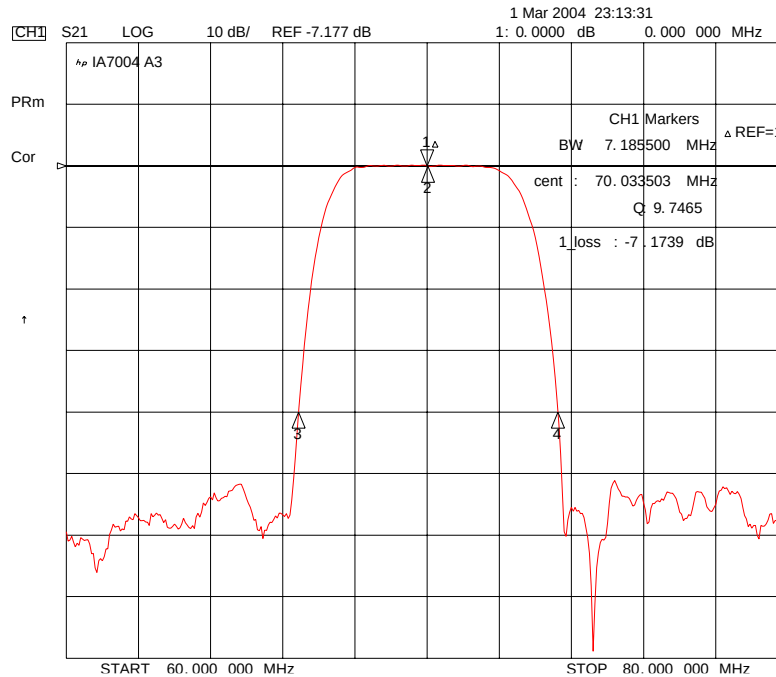
4) Pad Number 1 Index

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



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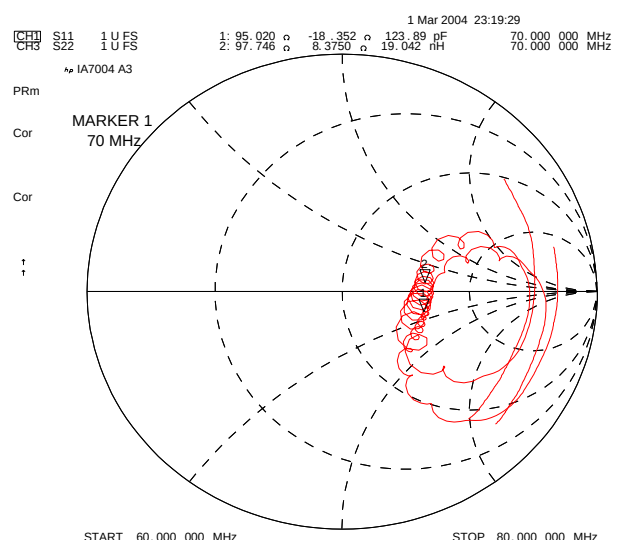
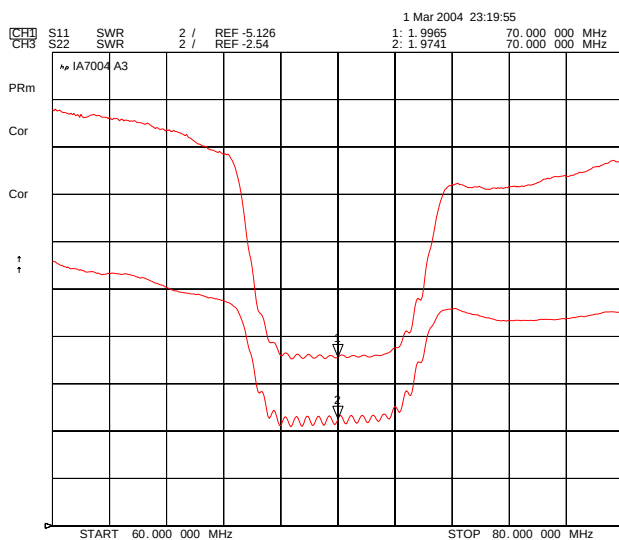
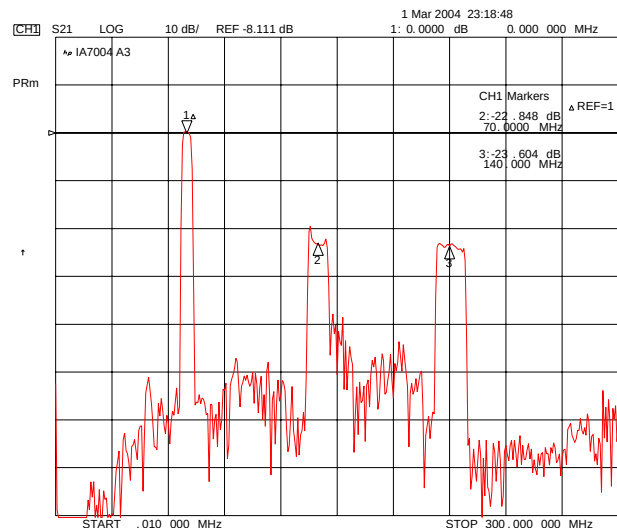
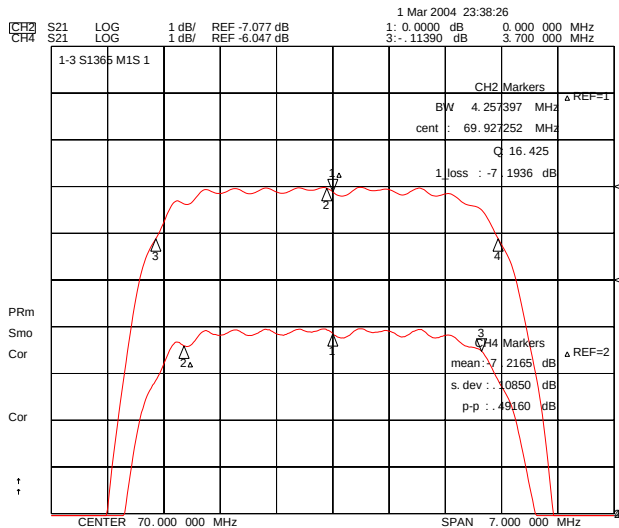
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