

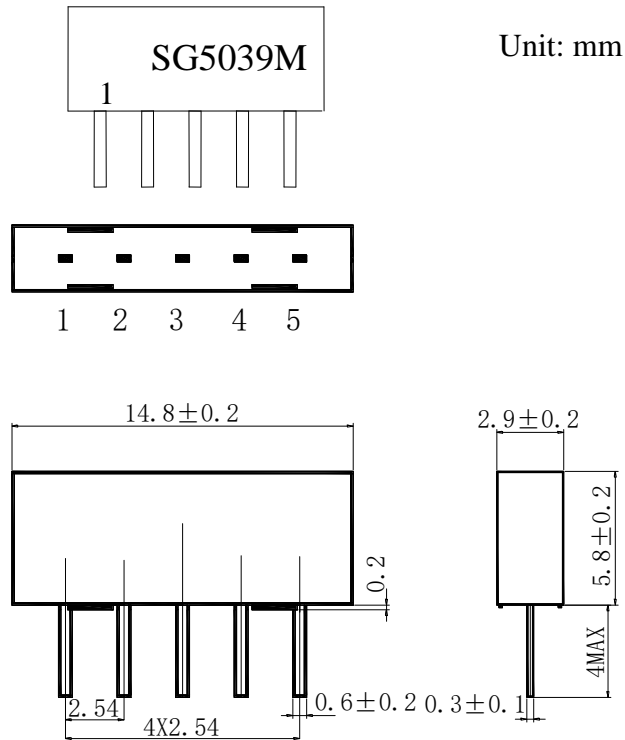


Range:

This specification shall cover the characteristics of SAW filter Strong's P/N: SG5039M

1. Package Dimension

(SIP5K)



Unit: mm

| Pin No. | Functions |
|---------|---------------------|
| 1. | Input |
| 2. | Input-Ground |
| 3. | Chip carrier-Ground |
| 4. | Output |
| 5. | Output |

2. Marking

S . Trademark

G5039M . Model

1 . Pin 1

3. Performance

3.1 Application: SAW Filter For Vestigial Sideband Filter

3.2 MAXIMUM RATINGS

| | | | | |
|-----------------------------|-----------|--------|----|-----------------------|
| DC voltage | V_{DC} | 12 | V | Between any terminals |
| AC voltage | V_{PP} | 10 | V | Between any terminals |
| Operating Temperature Range | T_A | -25~65 | °C | |
| Storage Temperature Range | T_{stg} | -40~85 | °C | |

3.3 Electronic Characteristics

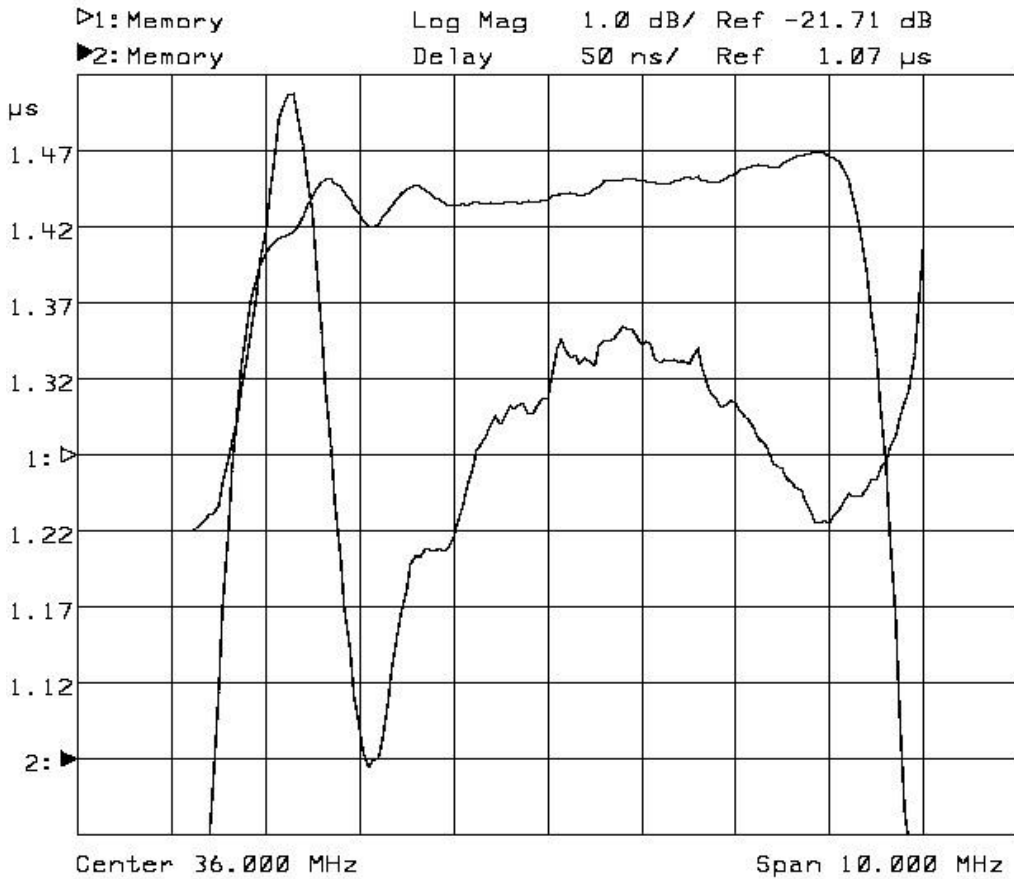
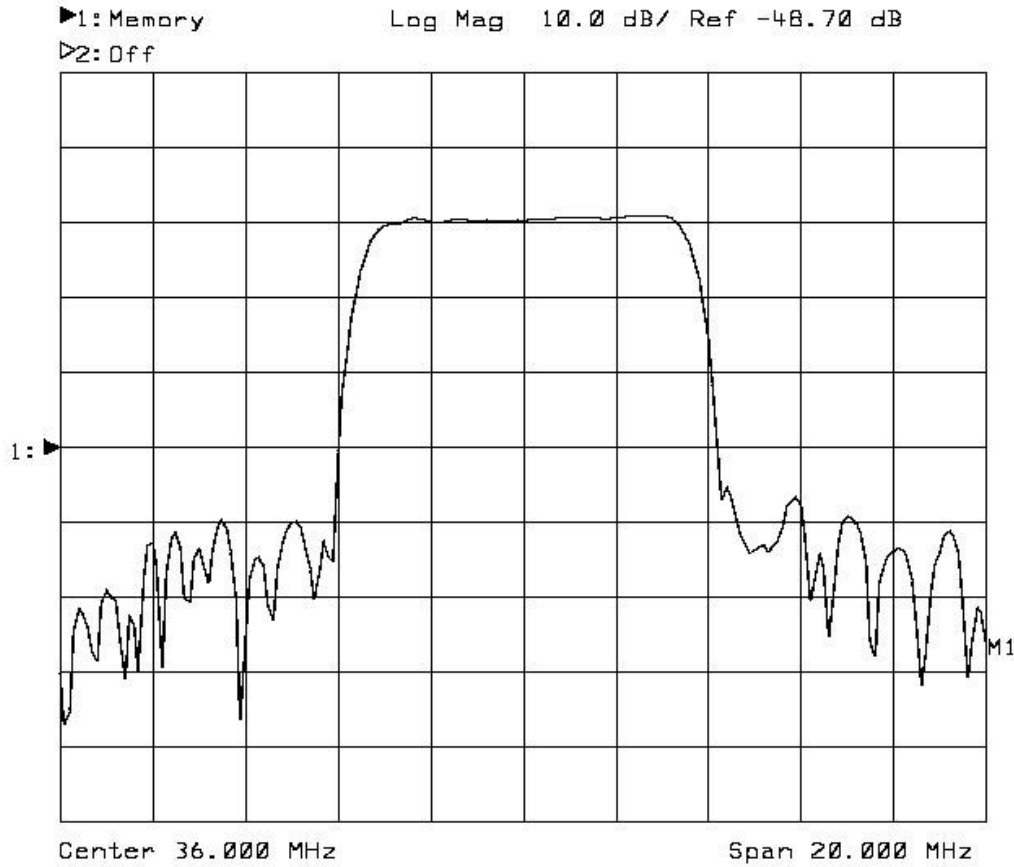
| | |
|------------------------------|---|
| Reference temperature: | $T_a=25^{\circ}\text{C}$ |
| Terminating source impedance | $Z_S=50\ \Omega$ |
| Terminating load impedance | $Z_L=2\text{k}\ \Omega // 3\ \text{pF}$ |

3.4. Amplitude Characteristics

Attenuation (ref. : 38.9 MHz):

| | MIN. | TYP. | MAX. | |
|---|------|-----------|------|-----------------|
| Insertion attenuation Reference level for the Following data 38.9 MHz | 18.0 | 20.0 | 22.0 | dB |
| 39.65 MHz | 2.8 | 4.3 | 5.8 | dB |
| 33.40 MHz | -1.3 | 0.2 | 1.7 | dB |
| 33.15 MHz | -1.0 | 0.5 | 2.0 | dB |
| 31.90 MHz | 34.0 | 45.0 | - | dB |
| 40.40 MHz | 30.0 | 40.0 | - | dB |
| Lower side lobe 25.00-30.40 MHz | 37.0 | 41.0 | - | dB |
| 30.40-31.90 MHz | 32.0 | 40.0 | - | |
| Upper side lobe 40.40-45.00 MHz | 30.0 | 37.0 | - | dB |
| Reflected Wave Signal Suppression | 42.0 | 52.0 | | dB |
| Feed through Signal Suppression | 50.0 | 56.0 | | dB |
| Group delay predistortion (Reference frequency 38.9 MHz) | | | | |
| 36.90 MHz | - | 95 | - | ns |
| 34.47 MHz | - | -100 | - | ns |
| Impedance at 44.0 MHz | | | | |
| Input Impedance | - | 1.7 15.0 | - | K Ω pF |
| Output Impedance | | 3.5 3.7 | | K Ω pF |
| Temperature Coefficient of frequency | - | -72.0 | - | ppm/K |

3.5 Frequency Characteristics



4. Test Circuit

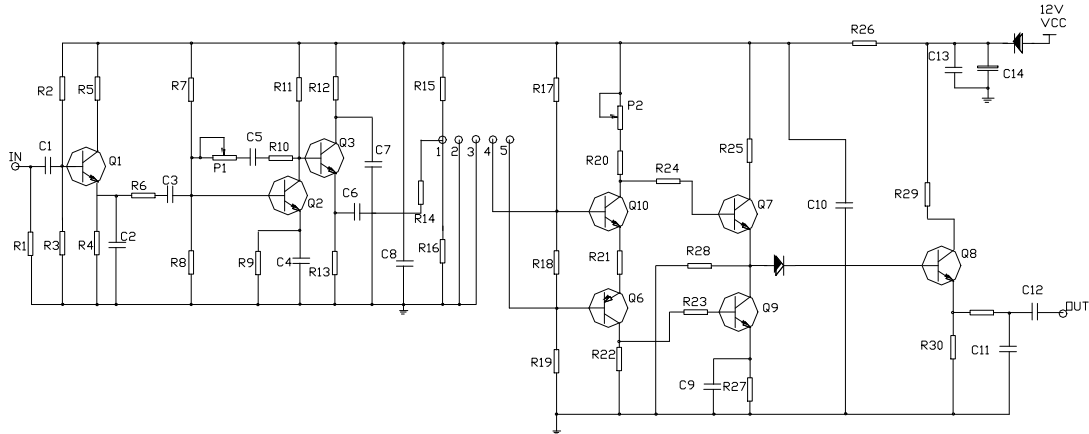


Fig.1 Test Circuit

5. RELIABILITY TEST

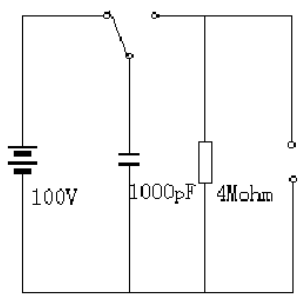
5.1 Environmental Performance Characteristics

| Item Test condition | Allowable change of absolute Level at center frequency(dB) |
|---|---|
| High temperature test 70°C 1000H | < 1.0 |
| Low temperature test -40°C 1000H | < 1.0 |
| Humidity test 40°C 90-95% 1000H | < 1.0 |
| Thermal shock -20°C==25°C==80°C 20 cycle 30M 10M 30M | < 1.0 |
| Solder temperature test Sold temp.260°C for 10 sec. | < 1.0 |
| Soldering Immerse the pins melt solder at 260°C+5/-0°C for 5 sec. | More then 95% of total area of the pins should be covered with solder |

5.2 Mechanical Test

| Item Test condition | Allowable change of absolute Level at center frequency(dB) |
|--|---|
| Vibration test 600-3300rpm amplitude 1.5mm 3 directions 2 H each | <1.0 |
| Drop test On maple plate from 1 m high 3 times | <1.0 |
| Lead pull test Pull with 1 kg force for 30 seconds | <1.0 |
| Lead bend test 90° bending with 500g weigh 2 times | <1.0 |

5.3 Voltage Discharge Test

| Item Test condition | Allowable change of absolute Level at center frequency(dB) |
|--|---|
| Surge test Between any two electrode  | <1.0 |

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