



1.SCOPE:

This specification shall cover the characteristics of SAW filter with Strong’s P/N: SG0646M

2. SYSTEM: B/G, D/K

3. Performance

3.1 Standard: B/G

3.2 MAXIMUM RATINGS

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

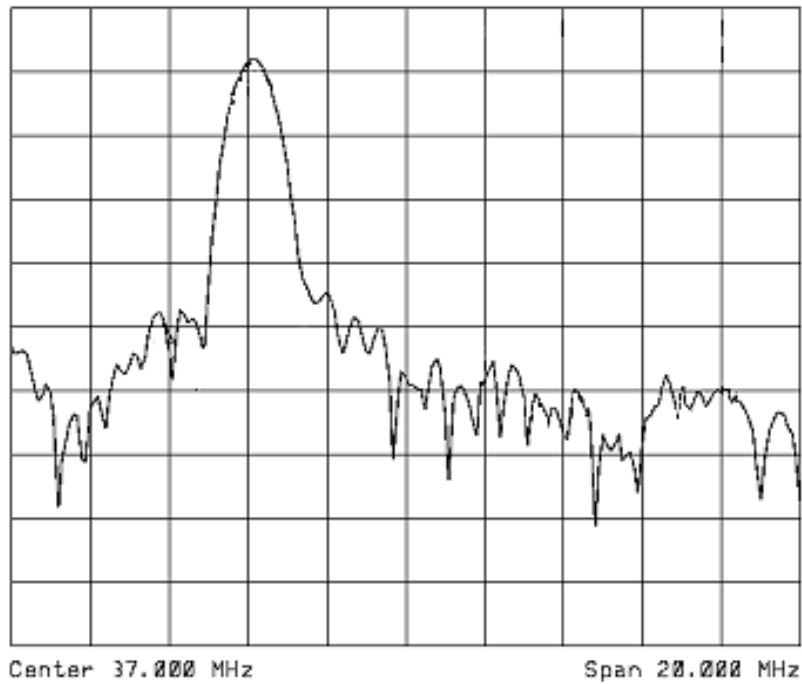
3.3 Electronic Characteristics

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

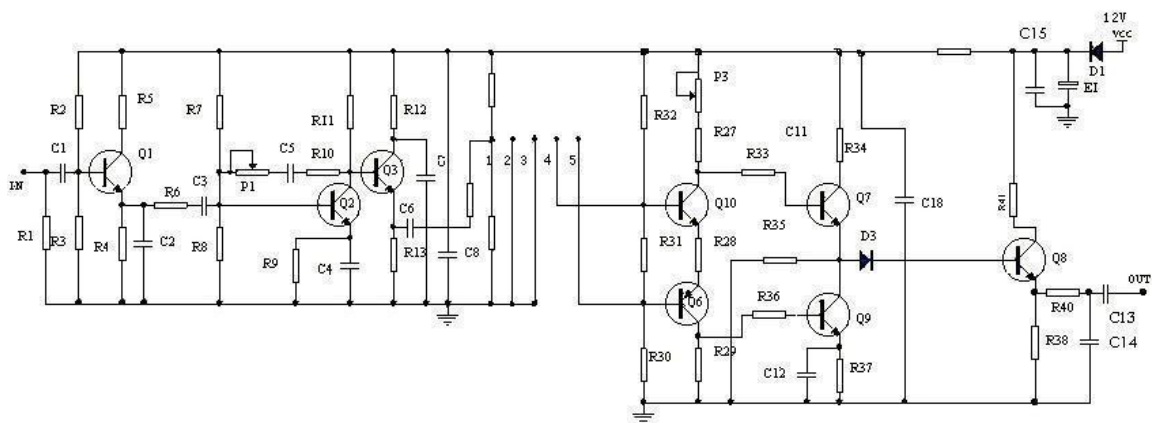
Amplitude Characteristics

| FREQUENCY(MHz) | | VALUE | | | unit |
|---|-----------------|-------------|------|------|------------------|
| | | Min | Typ. | Max. | |
| Insertion attenuation | 33.05 MHz | 8.2 | 10.2 | 12.2 | dB |
| Reference Frequency | 33.05 MHz | | 0 | | |
| Picture carrier | 38.90 MHz | 40.0 | 50.0 | - | dB |
| Color carrier | 34.47MHz | 26.0 | 32.0 | - | dB |
| Sound carrier | 33.40MHz | -0.6 | 1.4 | 3.4 | dB |
| Adjacent picture carrier | 30.90 MHz | 31.0 | 35.0 | - | dB |
| | 31.90 MHz | 30.0 | 37.0 | - | dB |
| Adjacent sound carrier | 40.40 MHz | 40.0 | 48.0 | - | dB |
| | 41.40 MHz | 40.0 | 46.0 | - | dB |
| Lower sidelobe: | 25.00-31.90 MHz | 30.0 | 35.0 | - | dB |
| Upper sidelobe: | 40.40-45.00 MHz | 37.0 | 42.0 | - | dB |
| Reflected wave signal suppression | | 42.0 | 48.0 | - | dB |
| Feedthrough signal suppression | | 50.0 | 55.0 | - | dB |
| Group delay predistortion (reference frequency 38.90MHz) | 36.50MHz | - | -65 | - | ns |
| | 34.47MHz | - | 0 | - | ns |
| Impedance at 37.40 MHz | | | | | |
| Input Impedance | | 1.1 18.4 | | | K Ω pF |
| Output Impedance | | 1.6 4.1 | | | K Ω pF |
| Temperature coefficient | TC | - | -72 | - | ppm/K |

3.4 Frequency response



3.5 Test Circuit



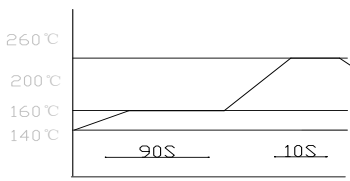
Test Circuit

5 ENVIRONMENTAL CHARACTERISTICS

5.1 Humidity, temperature Test

| ITEM | REQUIREMENT | JUDGEMENT |
|----------------------------|---|---|
| High temperature storage | T=+85±2°C Duration time 500H Being placed in natural condition for 2±.5hours | 1.No visible damage clear marker 2. Other electric characteristics should be fit for the provided characteristics in the form 3.4 after testing |
| Low temperature storage | T= -40±3°C Duration time 500H Being placed in nature condition for 2±5hours | |
| High-low temperature cycle | It shall be placed at temperature of -40°C±3°C for 30 minutes, then within 3 minutes replaced at temperature of +85°C±2°C for 30 minutes, and vice versa. Totally cycle 100 times. It shall be placed in natural condition for 2±0.5 hours. | |
| Humidity resistance test | T=60°C±2°C, RH=90~95% Duration time 500H. Being placed in natural condition for 2±0.5 hours | |

5.2 Solder-heat Resistance Test

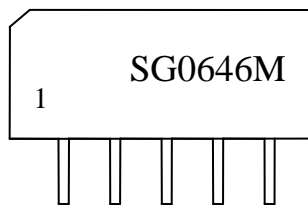
| ITEM | REQUIREMENT | JUDGEMENT |
|------------------------|--|--|
| Solder-heat Resistance | 1. Soldering trough: The 1mm thick PCB fixed with device are immersed in solder trough of 260±5°C for 10±1 seconds. And then it shall be measured after being placed in natural condition for 2±0.5 hours. 2. Manual soldering with electrical soldering iron: T=350±10°C for 3-4 seconds. And then it shall be measured after being placed in natural condition for 2±0.5hours | Same as judgement of 5.1 |
| solderability | Lead terminals are immersed in solder bath of 245±5°C for 3-5 seconds. | The solder shall cover at least 80% of the lead terminal |
| reflow soldering | Repeated 3 times after being on PCB under following condition:  | Same as judgement of 5.1 |

5.3 Mechanical Test

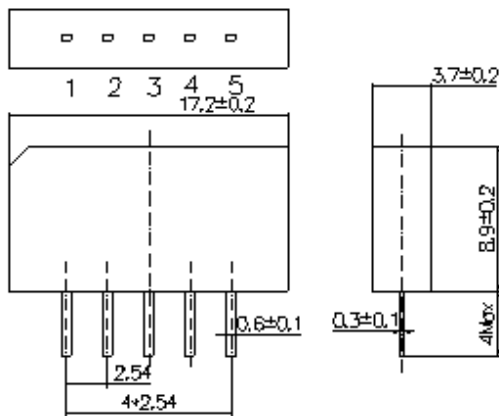
| ITEM | REQUIREMENT | JUGEMENT |
|--|---|--------------------------|
| Vibration Fatigue and terminal Strength test | Force 10 ± 1 seconds of 19.6N applied to each terminal in axial direction. Lead terminals shall be folded up to 45° with 5N force, then folded back to their axial direction 2 times. It shall be measured after being applied vibration of amplitude of 1.5mm with 10 to 55Hz of vibration frequency to each of 3 perpendicular directions for 2 hours. | Same as judgement of 5.1 |
| Drop test | It shall be measured after 10 times random drop from the height of 1 m onto the 20mm thicker hard wood floor. | |
| Mechanical Shock | The components shall remain within the electrical specifications after 1000 shocks, acceleration 392 m/s^2 , duration 6 milliseconds. | |

6. Package Dimension

M:SIP5K



Unit: mm



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

7. Marking

SG0646M . Model

1 . Pin 1