

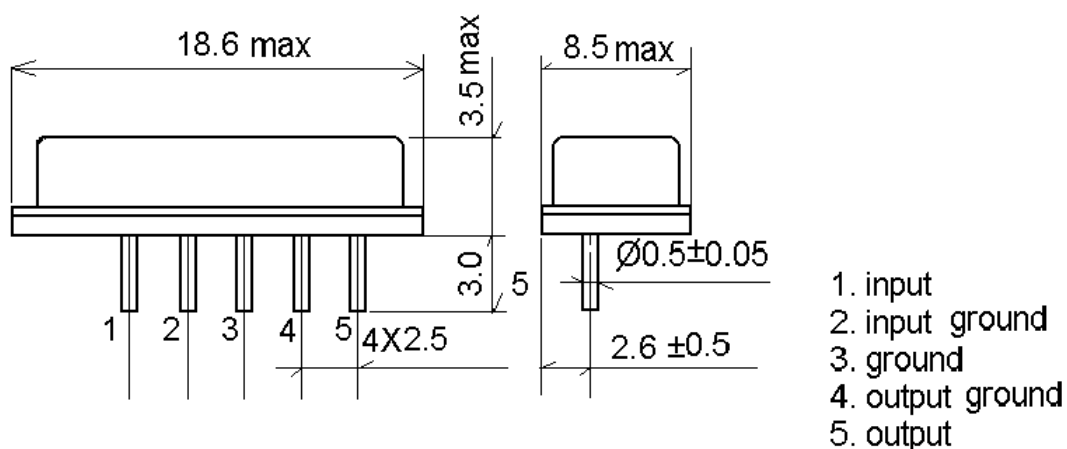
1.SCOPE

SAW filter series have broad line up products meeting all broadcast standard including NTSC, PAL and SECAM systems. These filters are composed of two inter digital transducers on a single-crystal. piezoelectrical chip. They are used in electronic equipments such as TV and so on.

2.Construction

2.1 Dimension and materials

Type : VSF389A1M



3.Characteristics

Standard atmospheric conditions

Unless otherwise specified , the standard rang of atmospheric conditions for making measurements and tests is as follows;

- Ambient temperature : 15 to 35
- Relative humidity : 25% to 85%
- Air pressure : 86kPa to 106kPa

Operating temperature rang

Operating temperature rang is the rang of ambient temperatures in which the filter can be

operated continuously. -10 ~ +60

Storage temperature rang

Storage temperature rang is the rang of ambient temperatures at which the filter can be stored without damage.

Conditions are as specified elsewhere in these specifications. -40 ~ +70

Reference temperature +25

3.1 Maximum Rating

| | | | | |
|-------------------|------------|-----------|----------|------------------------------|
| DC voltage | VDC | 12 | V | Between any terminals |
| AC voltage | Vpp | 10 | V | Between any terminals |

3.2 Electrical Characteristics

Source impedance

 $Z_S=50$

Load impedance

 $Z_L=50$ $T_A=25$

| Item | Freq | min | typ | max | |
|--|----------------|------|-------|------|-------|
| Nominal frequency | f_N | | 38.90 | | MHz |
| Insertion attenuation | N | 32.9 | 34.9 | 36.9 | dB |
| Relative attenuation (relative to N) | 31.90MHz | 32.0 | 40.0 | | dB |
| | 33.15MHz | -1.4 | 0.1 | 1.6 | dB |
| | 33.40MHz | -1.3 | 0.2 | 1.7 | dB |
| | 39.65MHz | 1.3 | 3.3 | 5.3 | dB |
| | 40.15MHz | 22.0 | 25.0 | - | dB |
| | 40.40MHz | 30.0 | 40.0 | - | dB |
| | 44.40MHz | 35.0 | 42.0 | | |
| Sidelobe | 25.00~31.90MHz | 30.0 | 38.0 | | dB |
| | 40.40~45.00MHz | 28.0 | 37.0 | | dB |
| Temperature coefficient | | | -87 | | Ppm/k |

3.3 Environmental Performance Characteristics

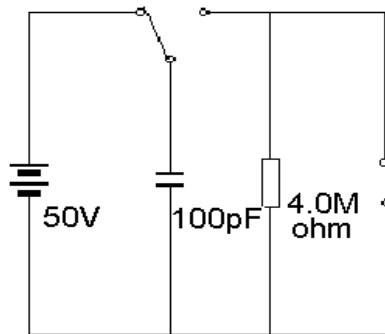
| Item Test condition | Allowable change of absolute Level at center frequency(dB) |
|--|---|
| High temperature test 70 16H , | < 1.0 |
| Low temperature test -25 2H | < 1.0 |
| Humidity test 40 90-95% 100H | < 1.0 |
| Thermal cycle -25 ==70 3cycle 30min. 5min. 30min. | < 1.0 |
| Solder temperature test Sold temp.260 for 10 sec. | < 1.0 |
| Soldering Immerse the pins melt solder at 260 +5/-0 for 5 sec. | More then 95% of total area of the pins should be covered with solder |

3.4 Mechanical Test

| Item Test condition | Allowable change of absolute Level at center frequency(dB) |
|--|---|
| Vibration test Frequency 10~55Hz 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 |

3.5 Voltage Discharge Test

| Item Test condition | Allowable change of absolute Level at center frequency(dB) |
|------------------------|---|
|------------------------|---|



| | |
|---|------|
| Surge test Between any two electrode | <1.0 |
|---|------|

3.6 Frequency response

SHOULDER ELECTRONICS LIMITED

