

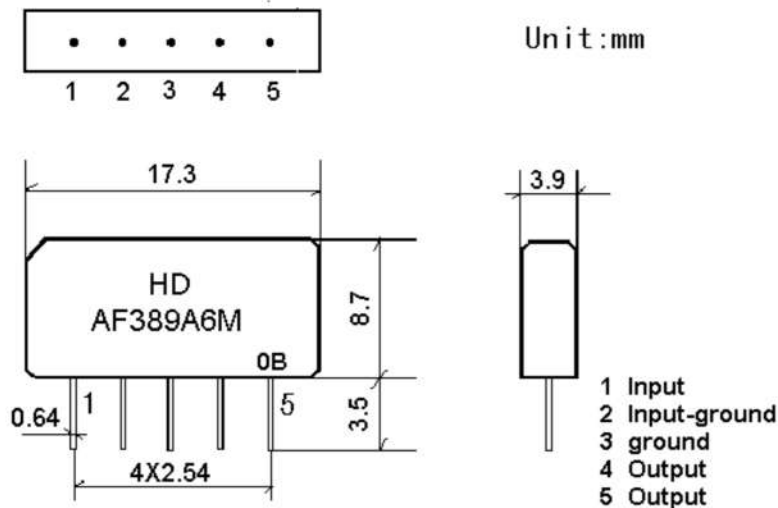
1.SCOPE

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

2.Construction

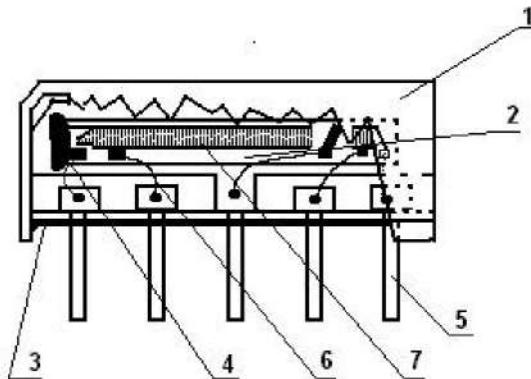
2.1 Dimension and materials

Type : AF389A6M



0: year(0,1,2,3,4,5,6,7,8,9)

B:product in this quarter(A:1~3,B:4~6,C:7~9,D:10~12)



| Components | Materials |
|----------------|-------------------|
| 1.Outer casing | PPS |
| 2.Substrate | Lithium niobate |
| 3.Base | Epoxy resin |
| 4.Absorber | Epoxy resin |
| 5.Lead | Cu alloy+Au plate |
| 6.Bonding wire | AlSi alloy |
| 7.Electrode | Al |

3.2 Electrical Characteristics

Source impedance

$Z_s=50\ \Omega$

Load impedance

$Z_L=2\text{k}\ \Omega //3\text{pF}$

$T_A=25^\circ\text{C}$

| Item | Freq | min | typ | max | |
|--|----------------|------|------|------|-------|
| Insertion attenuation Reference level | 38.90MHz | 16.3 | 18.3 | 20.3 | dB |
| Relative attenuation | 32.90MHz | -1.4 | 0.1 | 1.6 | dB |
| | 32.35MHz | -1.9 | -0.4 | 1.1 | dB |
| | 33.40MHz | -1.4 | 0.1 | 1.6 | dB |
| | 34.47MHz | 25.0 | 35.0 | - | dB |
| | 30.90MHz | 35.0 | 46.0 | - | dB |
| | 40.90MHz | 36.0 | 47.0 | - | dB |
| Sidelobe | 25.00~30.90MHz | 32.0 | 39.0 | - | dB |
| | 40.40~45.00MHz | 31.0 | 38.0 | - | dB |
| Temperature coefficient | | -72 | | | ppm/k |

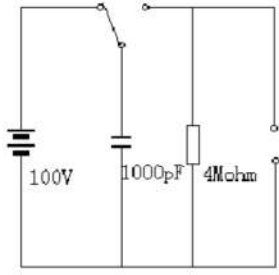
3.3 Environmental Performance Characteristics

| 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 |

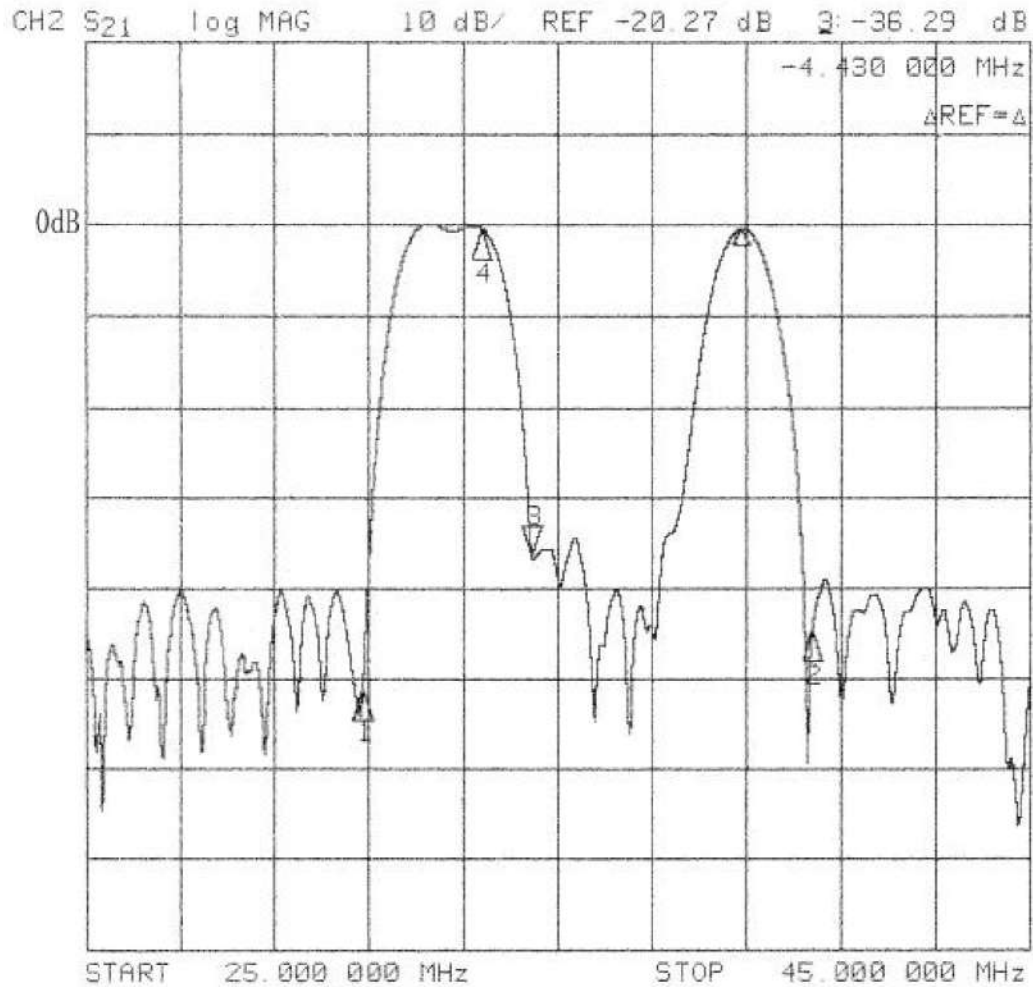
3.4 Mechanical Test

| 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 |

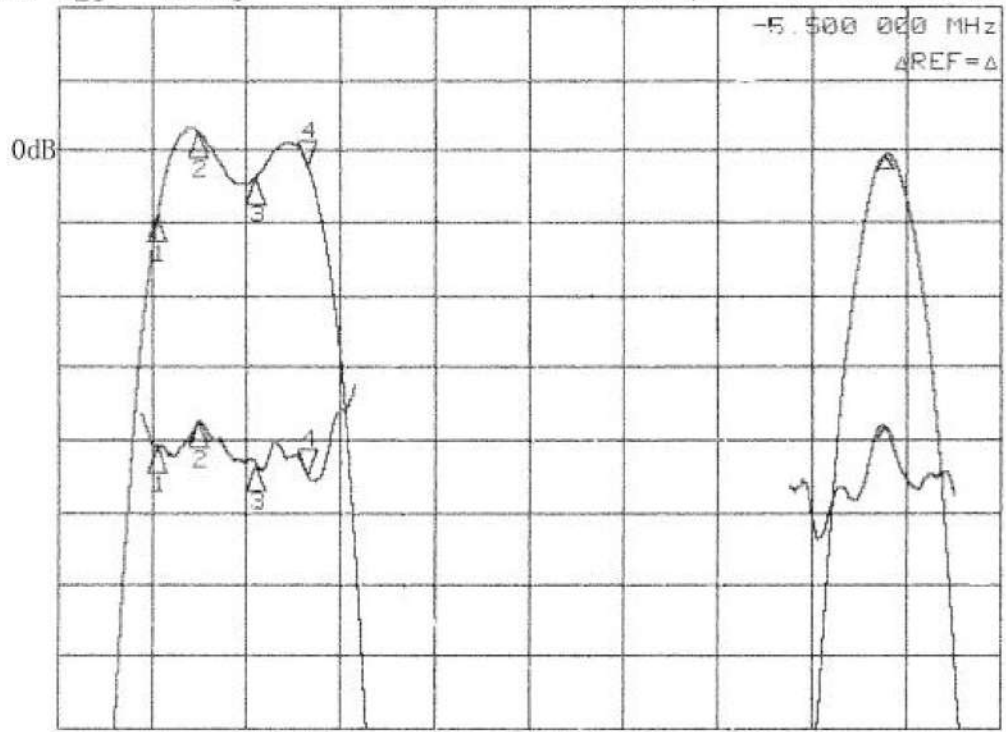
3.5 Voltage Discharge Test

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

3.6 Frequency response:



CH1 S21 log MAG 1 dB/ REF -20.53 dB 4 -.1559 dB
CH2 S21 delay 30 ns/ REF 1.197 μs 4 -20.406 ns



START 31.000 000 MHz

STOP 40.000 000 MHz