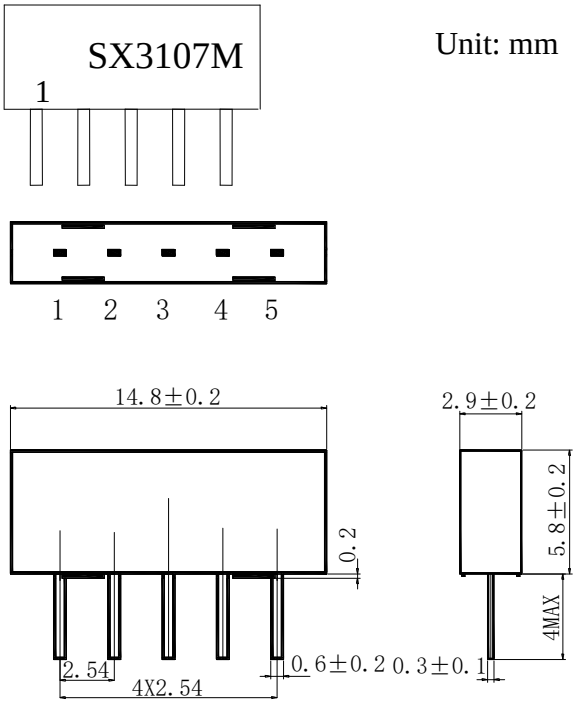
**Range:**

**This specification shall cover the characteristics of SAW filter Strong's P/N: SX3107D**

## 1. Package Dimension

(SIP5D)




Unit: mm

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

## 2. Marking

S . Trademark

X3107D . Model

1 . Pin 1

# 3. Performance

## 3.1 Use: IF Filter for digital TV

## 3.2 MAXIMUMRATINGS

| | | | | |
|---|---|---|---|---|
| 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 | ℃ | |
| Storage Temperature Range | $T_{stg}$ | -40~85 | ℃ | |

## 3.3 Electronic Characteristics

Reference temperature: Ta=25（50）/℃

Terminating source impedance $Z_S$=50Ω

Terminating load impedance $Z_L$=2kΩ//3 pF

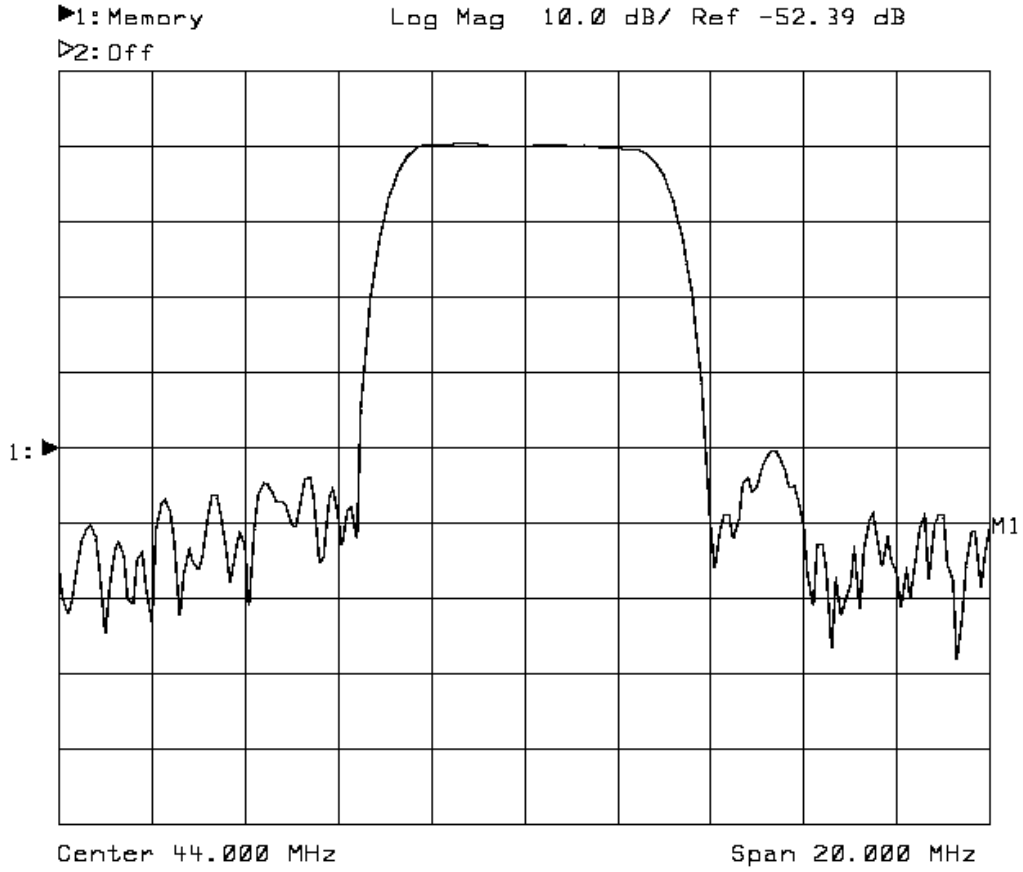
### 3.4.1.Amplitude Characteristics

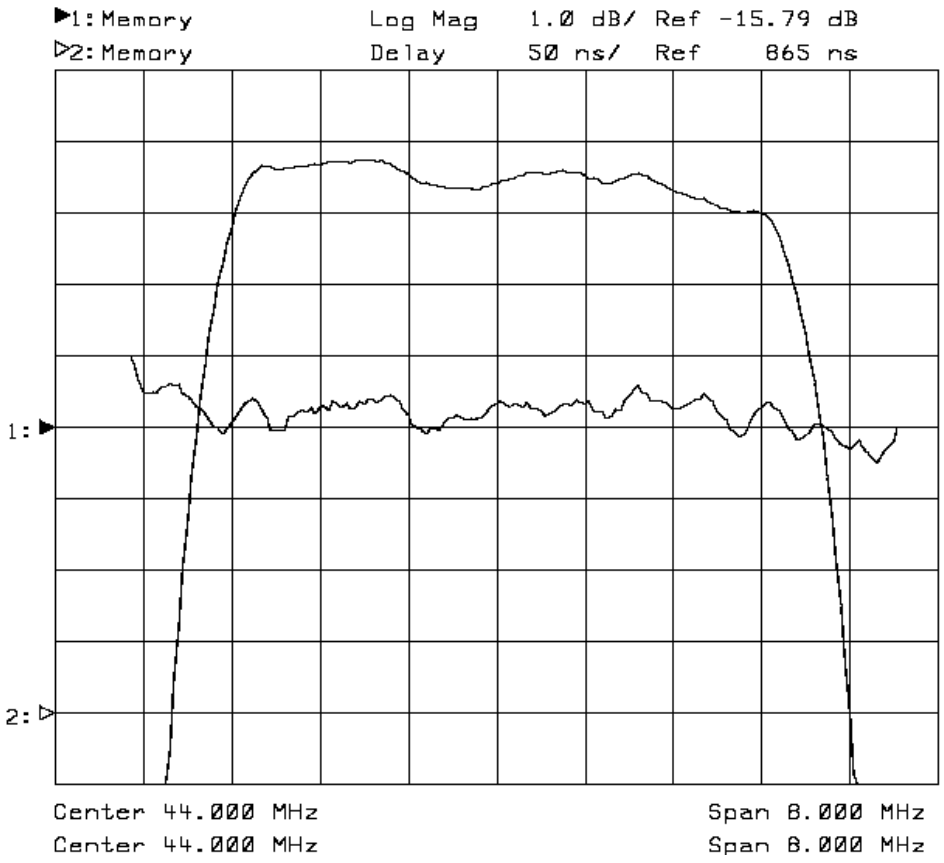
Attenuation:

| | MIN. | TYP. | MAX. | |
|---|---|---|---|---|
| Center frequency fc<br>Center frequency between 10dB point | - | 44.0 | - | MHz |
| Insertion attenuation<br>Reference level for the<br>Following data 44.08(44.00) MHz | 12.5 | 14.0 | 15.5 | dB |
| Amplitude ripple<br>41.75-46.41 (41.67-46.33) MHz | 0.0 | 0.6 | 1.0 | dB |
| 3dB Pass Bandwidth | 5.4 | 5.6 | 5.8 | MHz |
| 30dB Pass Bandwidth | 7.0 | 7.3 | 7.6 | MHz |
| Lower side lobe<br>35.08-38.08(35.00-38.00) MHz<br>38.08-40.13(38.00-40.05) MHz | <br>41.0<br>37.0 | <br>48.0<br>45.0 | <br>-<br>- | <br>dB<br>dB |
| Upper side lobe<br>48.03-50.33(47.95-50.25) MHz<br>50.33-55.08(50.25-55.00) MHz | <br>36.0<br>40.0 | <br>45.0<br>50.0 | <br>-<br>- | <br>dB<br>dB |
| Reflected Wave Signal Suppression | 42.0 | 52.0 | | dB |
| Feed through Signal Suppression | 50.0 | 56.0 | | dB |
| Group delay ripple<br>41.75…46.41(41.67…46.33) MHz | <br>- | <br>40 | <br>- | <br>ns |
| Impedance at 44.08 MHz<br>Input Impedance<br>Output Impedance | <br>- | <br>1.5‖15.4<br>1.3‖4.6 | <br>- | <br>KΩ‖pF<br>KΩ‖pF |
| Temperature Coefficient of frequency | - | -72.0 | - | ppm/K |

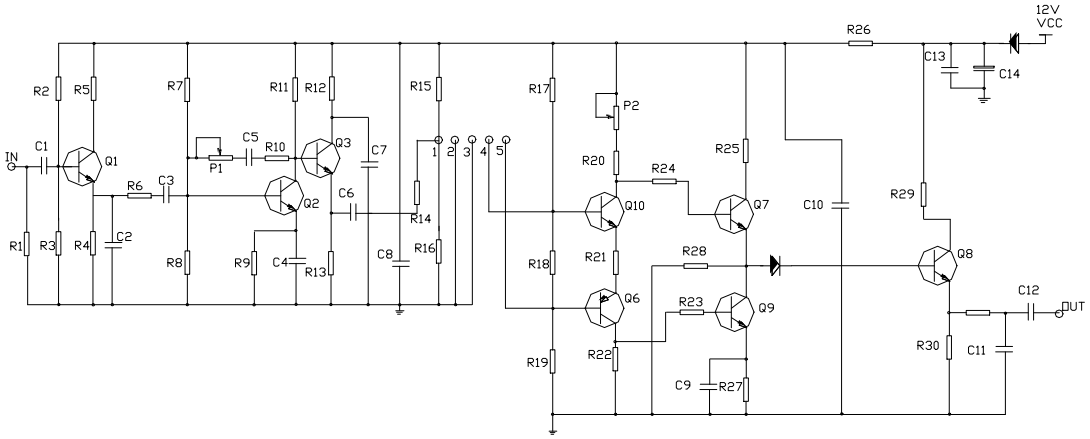
## 3.5 Frequency Characteristics

3.5.1 Frequency response



4. Test Circuit




Test Circuit

5. RELIABILITY TEST

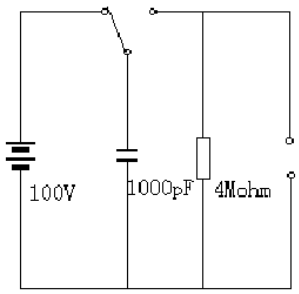
5.1 Environmental Performance Characteristics

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

5.2 Mechanical Test

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

5.3 Voltage Discharge Test

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