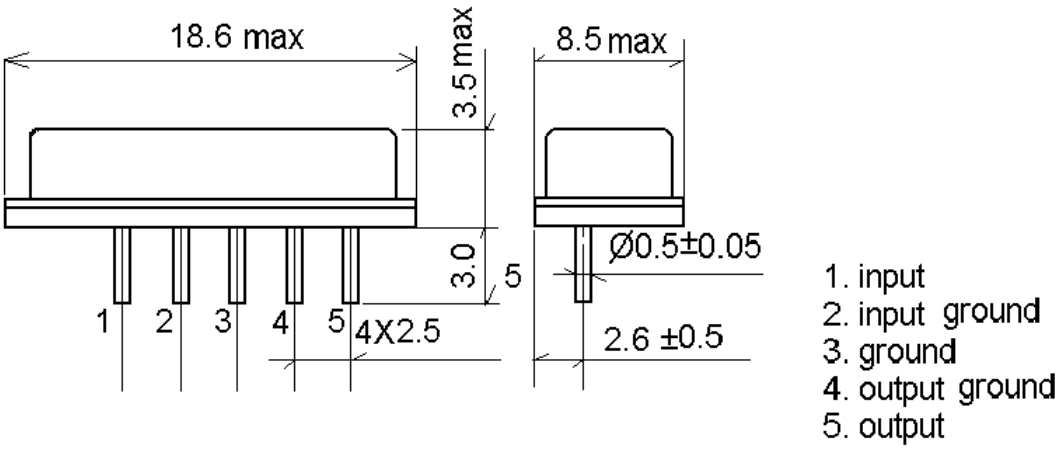
1.SCOPE

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 Zs=50Ω

Load impedance Z_L= 50Ω T_A=25℃

Item		Freq	min	typ	max	
Nominal frequency		f_N		38.90		MHz
Insertion attenuation		α_N	32.9	34.9	36.9	dB
Relative attenuation (relative to α_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

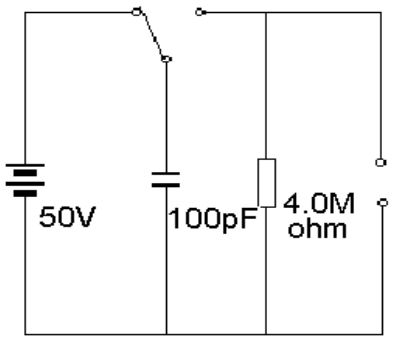
3.3 Environmental Performance Characteristics

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

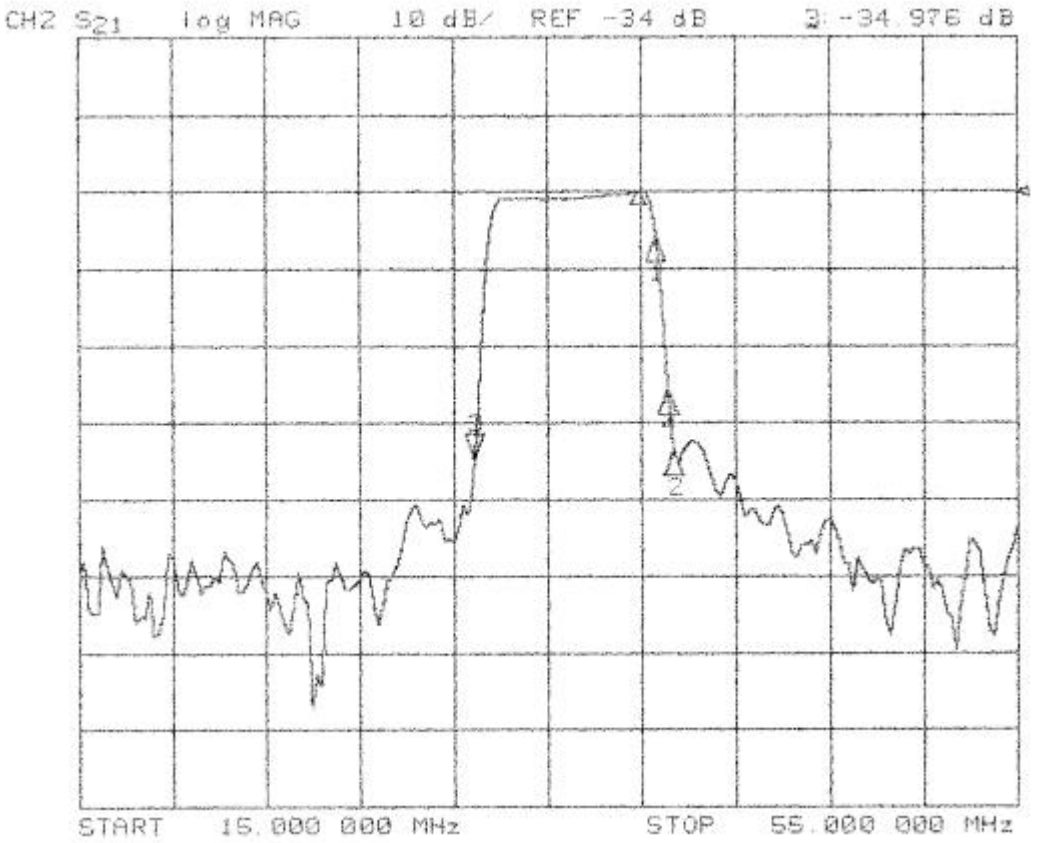
3.4 Mechanical Test

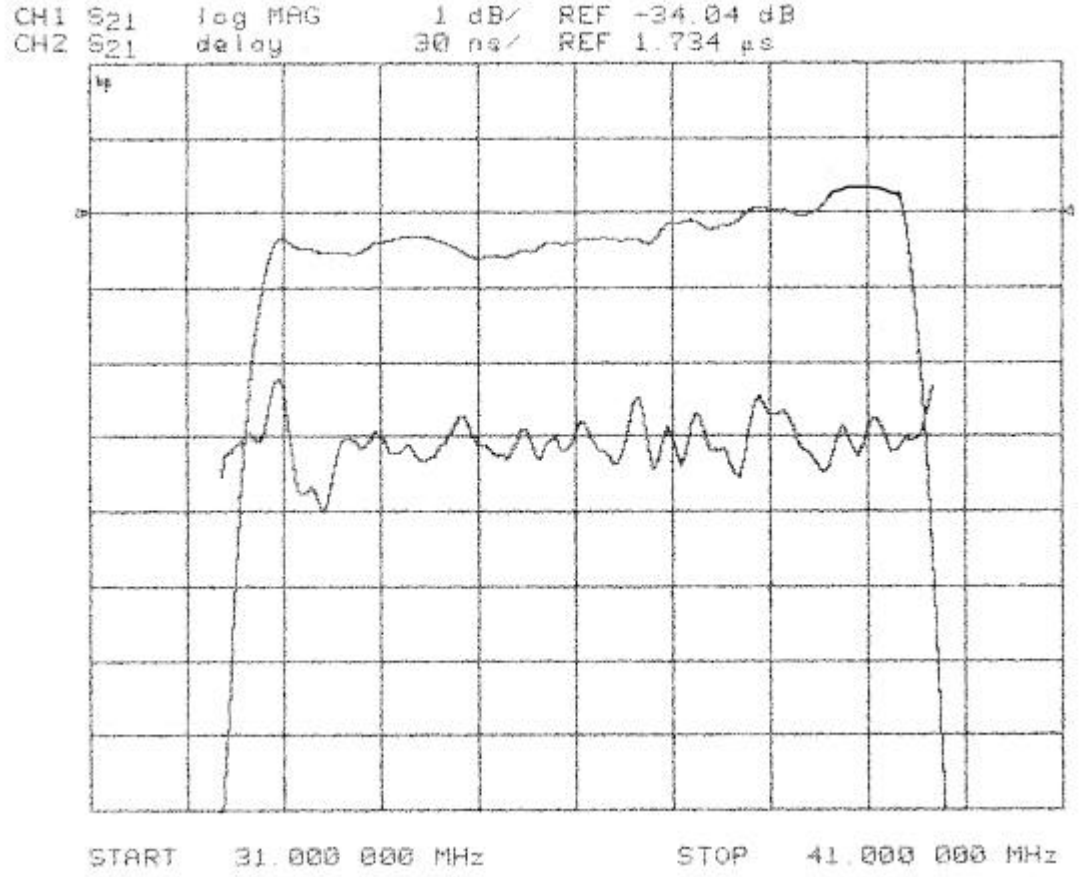
Item Test condition	Allowable change of absolute Level at center frequency(dB)
Vibration test Frequency 10~55Hz amplitude 1.5mm 3 directions 2 H each	<1.0
Drop test On maple plate frome 1 m high 3 times	<1.0
Lead pull test Pull with 1 kg force for 30 seconds	<1.0
Lead bend test 90^{o} bending with 500g 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


CH2 S21 log MAG 10 dB/ REF -34 dB 2: -34.976 dB
START 15.000 000 MHz
STOP 55.000 000 MHz


CH1 S21 log MAG 1 dB/ REF -34.04 dB
CH2 S21 delay 30 ns/ REF 1.734 µs
START 31.000 000 MHz
STOP 41.000 000 MHz