

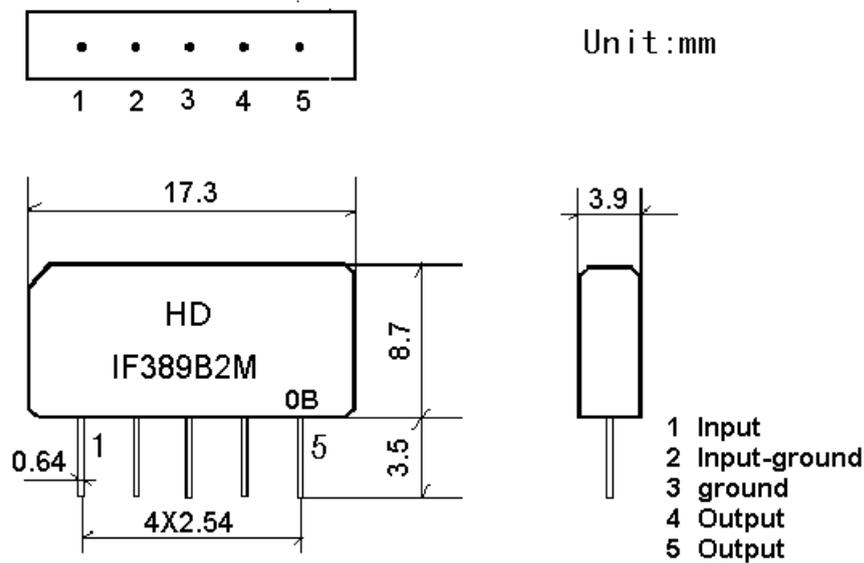
1.SCOPE

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

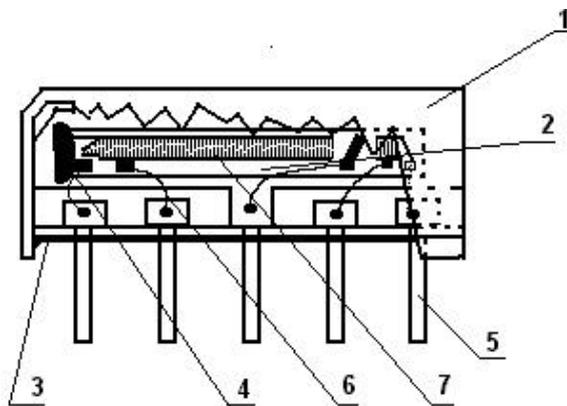
2.1 Dimension and materials

Type : IF389B2M



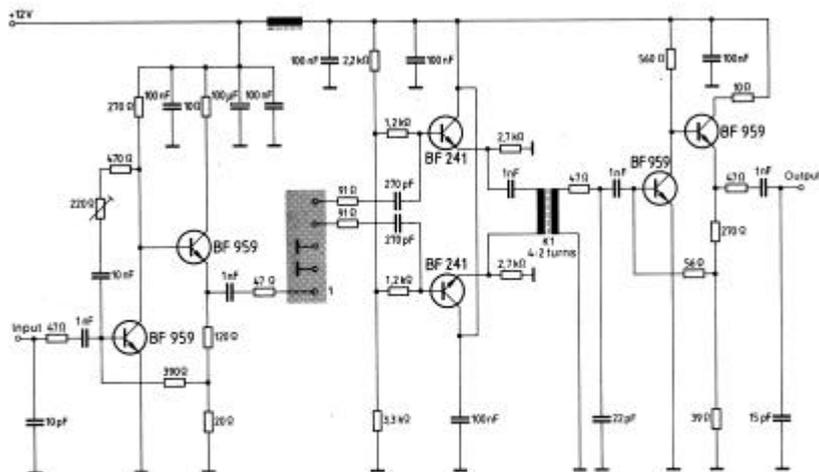
0: year(0,1,2,3,4,5,6,7,8,9)

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

2.2. Circuit construction, measurement circuit



Test circuit for SIP-5 filter
Input impedance of the symmetrical post-amplifier: 2 kΩ in parallel with 3 pF

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 $Z_L=2k //3pF$ $T_A=25$

Items	Freq	Min	typ	max	
Insertion attenuation Reference level	37.40MHz	16.0	17.0	19.0	dB
Relative attenuation	38.90MHz	4.3	5.8	7.3	dB
	34.47MHz	-0.5	0.7	1.9	dB
	32.40MHz	16.6	18.6	20.6	dB
	33.40MHz	17.2	19.2	-	dB
	30.90MHz	42.0	58.0		dB
	40.40MHz	40.0	50.0		dB
	41.40MHz	40.0	50.0		dB
Sidelobe	25.00~30.90MHz	35.0	45.0		dB
	40.40~45.00MHz	34.0	42.0		dB
Reflected wave signal suppression 1.2 μ s...6.0 μ s after main pulse (test pulse 250ns, carrier frequency 37.4MHz)		40.0	50.0		dB
Feedthrough signal suppression 1.2 μ s...1.1 μ s before main pulse (test pulse 250ns, carrier frequency 37.4MHz)		42.0	52.0	-	dB
Group delay predistortion (reference frequency 38.90 MHz)					
	36.50 MHz	-	-70	-	ns
	34.47 MHz	-	20	-	ns
Impedance at 37.40 MHz:					
Input: $Z_{in} = R_{in} // C_{in}$		-	2.0//12.1	-	k //pF
Output: $Z_{out}=R_{out} // C_{out}$		-	3.0 //2.8	-	k //pF
Temperature coefficient			-72		Ppm/k

3.3 Environmental Performance Characteristics

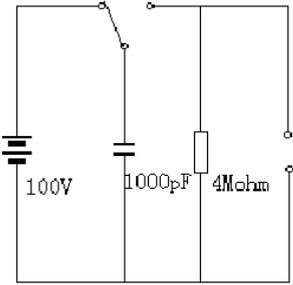
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70 1000H	< 1.0
Low temperature test -40 1000H	< 1.0
Humidity test 40 90-95% 1000H	< 1.0
Thermal shock -20 ==25 ==80 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp.260 for 10 sec.	< 1.0
Soldering	More then 95% of total

Immerse the pins melt solder at 260 +5/-0 for 5 sec.	area of the pins should be covered with solder
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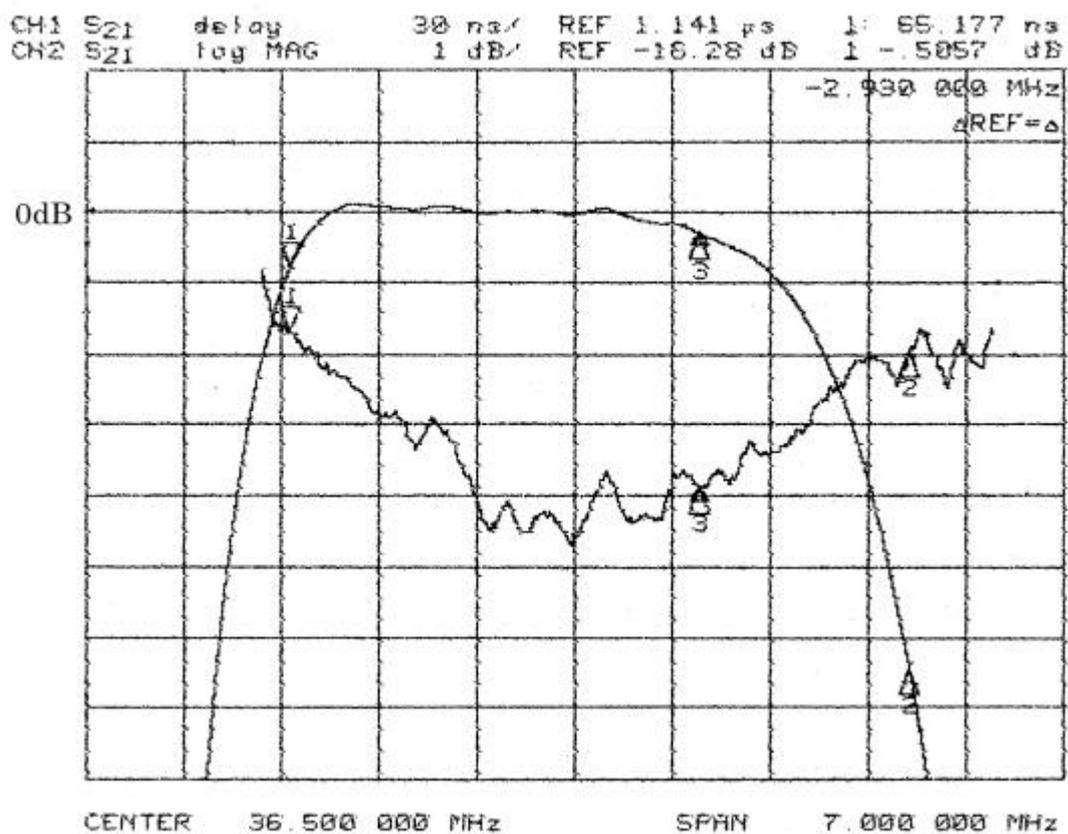
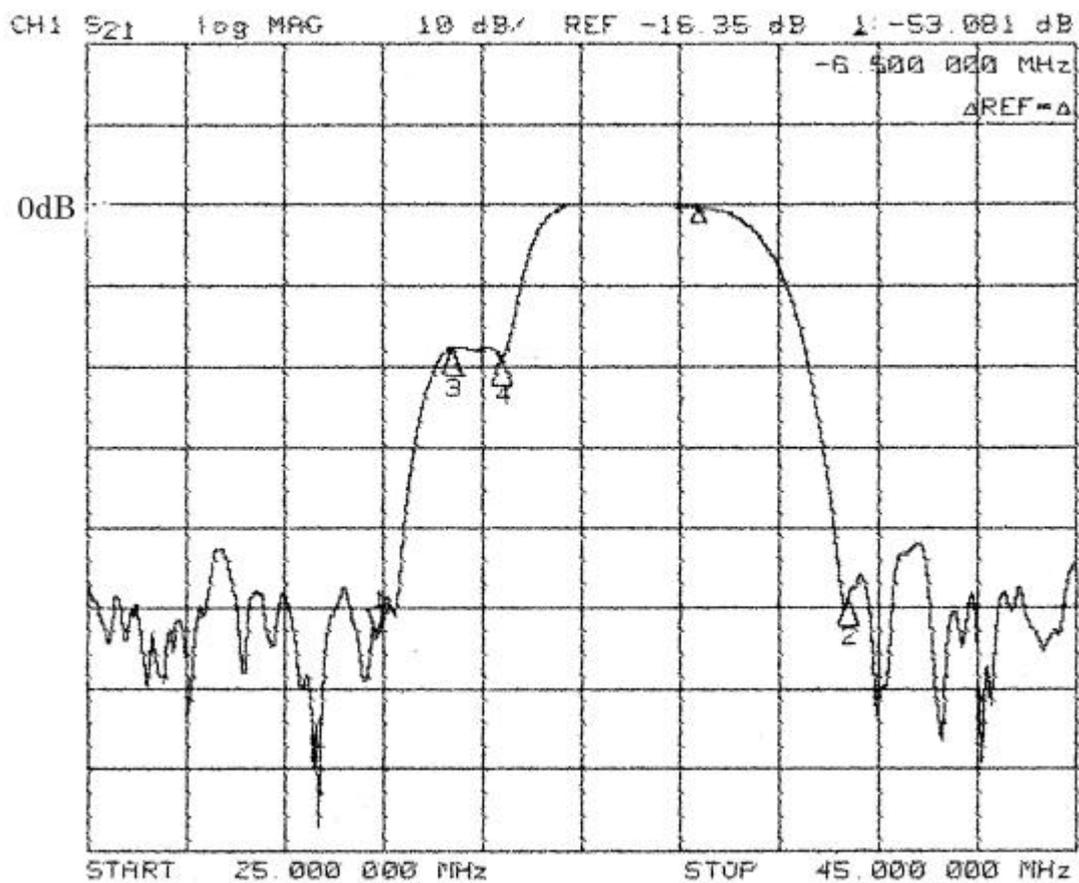
3.4 Mechanical Test

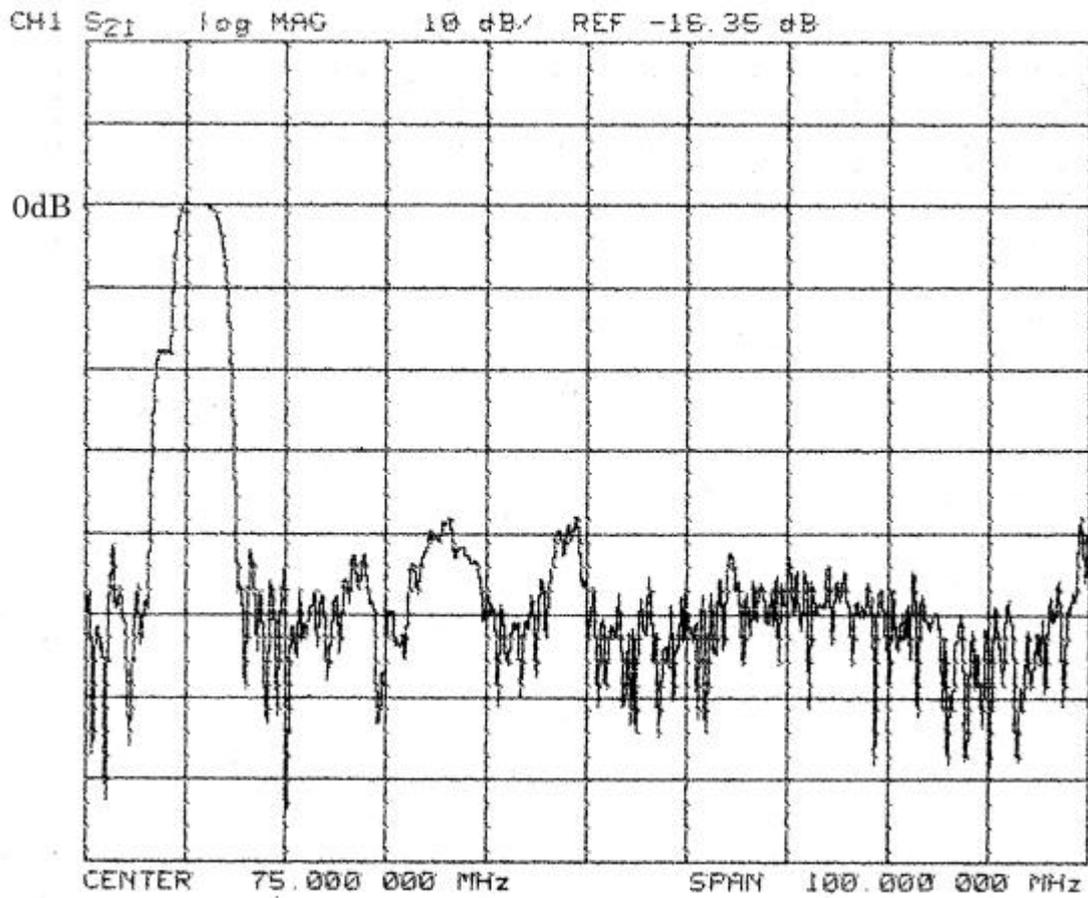
Item Test condition	Allowable change of absolute Level at center frequency(dB)
Vibration test 600-3300rpm amplitude 1.5mm 3 directions 2 H each	<1.0
Drop test On maple plate from 1 m high 3 times	<1.0
Lead pull test Pull with 1 kg force for 30 seconds	<1.0
Lead bend test 90° bending with 500g weigh 2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





Time domain response:

