

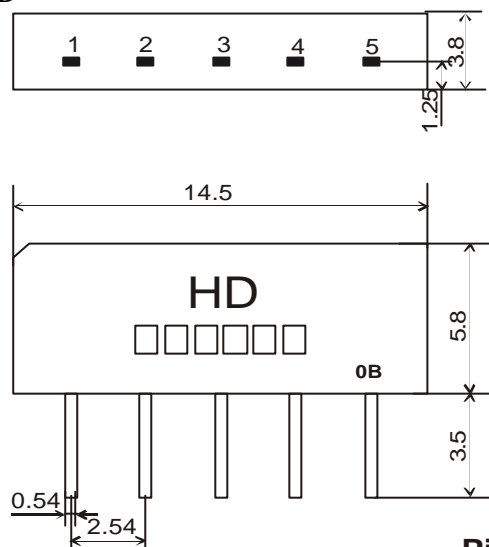
1.SCOPE

The 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 : IF45A1D

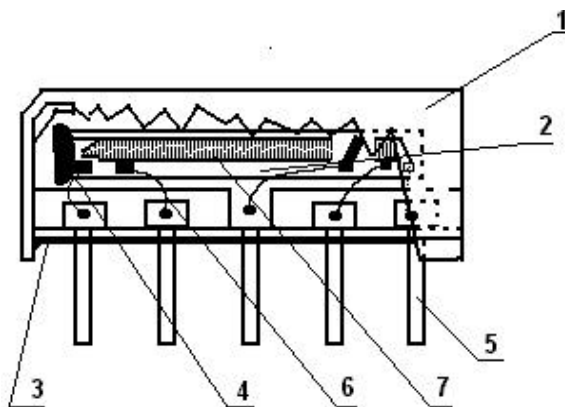


Pin configuration

- 1 Input
- 2 Input-ground
- 3 Chip carrier-ground
- 4 Output
- 5 Output

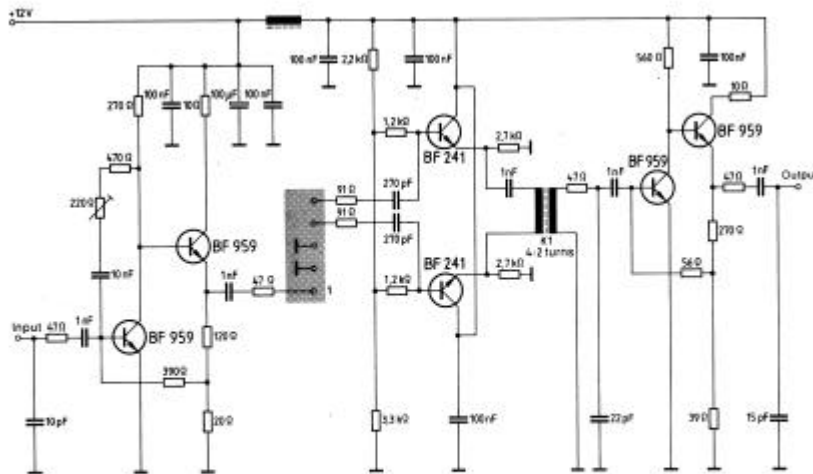
0:year(0,1,2,3,4,5,6,7,8,9)

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

$Z_L=2k //3pF$

$T_A=25$

	Freq	Min	typ	max	
Insertion attenuation	44.06MHz	10.7	12.7	14.7	dB
Reference level					
Relative attenuation	45.81MHz	4.5	6.0	7.5	dB
	42.23MHz	-0.5	1.0	2.5	dB
	41.98MHz	-	3.0	-	dB
	41.73MHz	-	7.4	-	dB
	41.31MHz	17.1	19.1	21.1	dB
	39.81MHz	42.0	50		dB
	47.31MHz	40.0	48		dB
Sidelobe	35.06~39.81MHz	35.0			dB
	47.31~55.06MHz	35.0			dB
Temperature coefficient			-72		ppm/k

3.3 Environmental Performance Characteristics

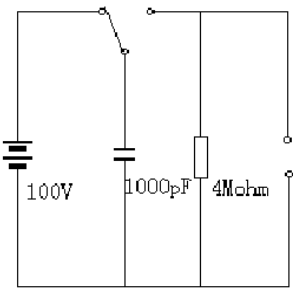
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70 1000H	< 1.0
Low temperature test -40 1000H	< 1.0
Humidity test 40 90-95% 1000H	< 1.0
Thermal shock -20 ==25 ==80 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp.260 for 10 sec.	< 1.0
Soldering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

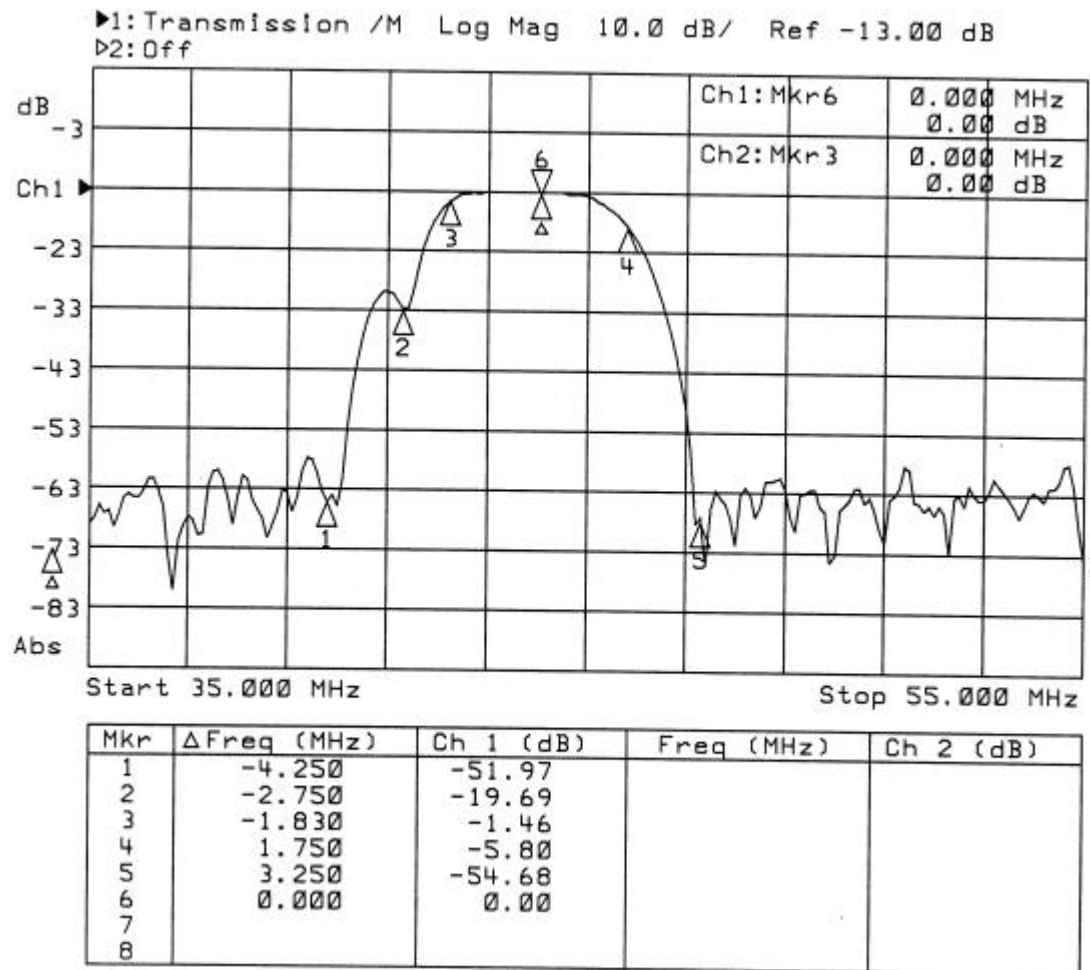
Item Test condition	Allowable change of absolute Level at center frequency(dB)
Vibration test 600-3300rpm amplitude 1.5mm 3 directions 2 H each	<1.0
Drop test On maple plate from 1 m high 3 times	<1.0
Lead pull test Pull with 1 kg force for 30 seconds	<1.0

Lead bend test 90° bending with 500g weigh 2 times	<1.0
---	------

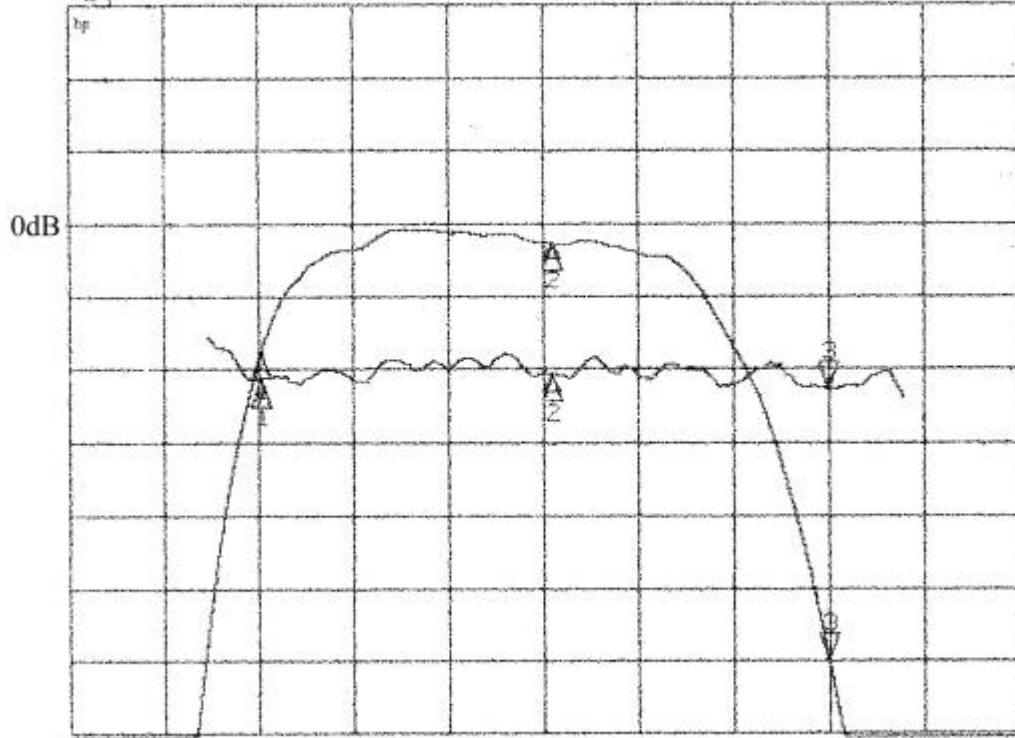
3.5 Voltage Discharge Test

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

3.6 Frequency response

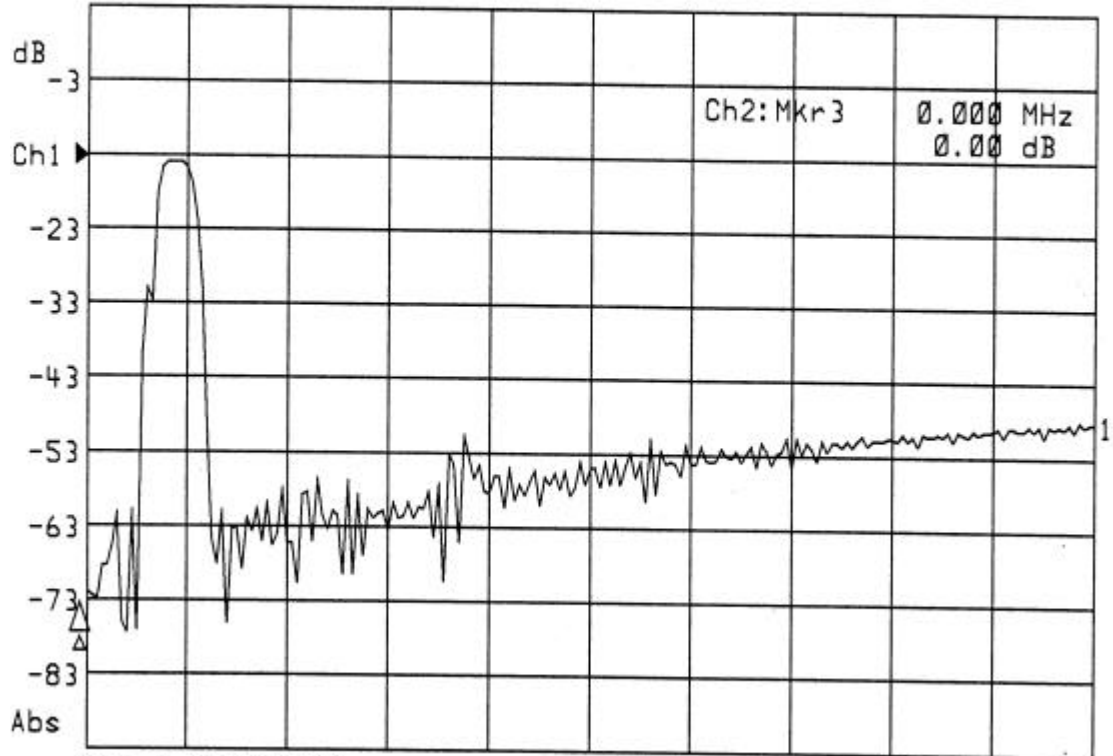


CH1 S21 log MAG 1 dB/ REF -12.7 dB 2 -5.7052 dB
 CH2 S21 delay 100 ns/ REF 1.368 μ s 3 -17.166 ns



START 41.000 000 MHz STOP 47.000 000 MHz

►1: Transmission /M Log Mag 10.0 dB/ Ref -13.00 dB
 ►2: Off



Start 35.000 MHz

Stop 135.000 MHz