

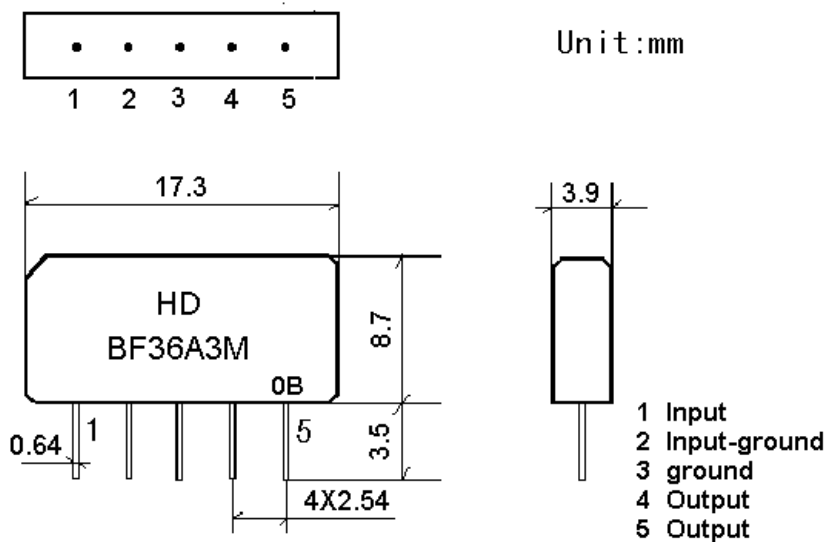
1.SCOPE

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

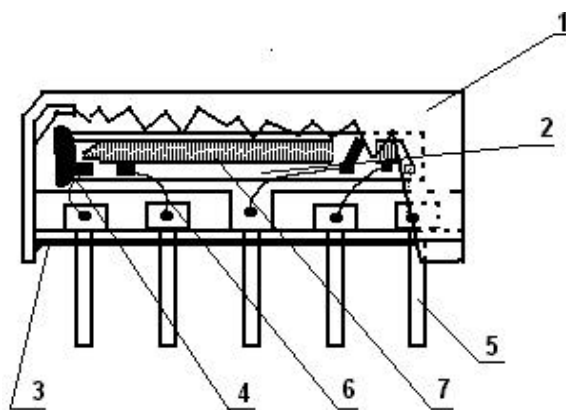
2.1 Dimension and materials

Type : BF36A3M



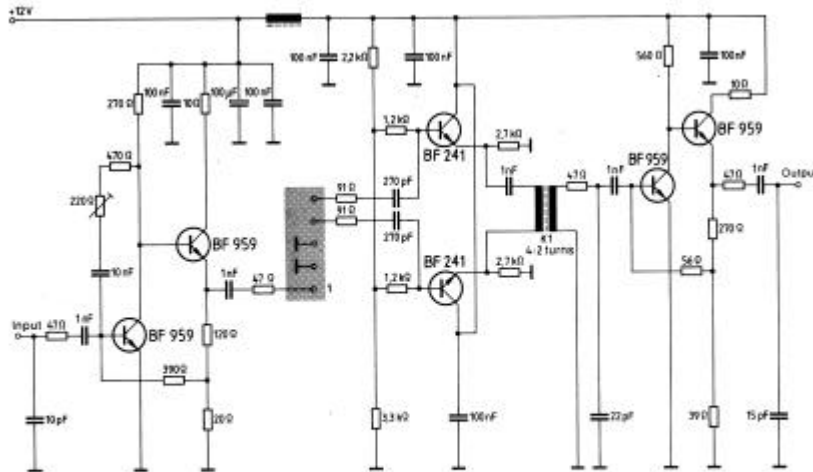
0: year(0,1,2,3,4,5,6,7,8,9)

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 k Ω in parallel with 3 pF

3.Characteristics

Standard atmospheric conditions

Unless otherwise specified , the standard range of atmospheric conditions for making measurements and tests is as follows;

Ambient temperature : 15C to 35C
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. -10C ~ +60C

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. -40C ~ +70C

Reference temperature +25C

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		$Z_L=2k \ //3pF$		$T_A=25C$	
Item	Freq	min	typ	max	
Center frequency	Fo	-	36.125	-	MHz
Insertion attenuation Reference level	36.125MHz	13.0	15.0	17.0	dB
Pass bandwidth	B_{3dB}	5.9	6.1	-	MHz
	B_{30dB}	-	7.8	8.0	MHz
Sidelobe	25.00~32.00MHz	35.0	40.0		dB
	40.20~45.00MHz	35.0	40.0		dB
Temperature coefficient		-72			ppm/k

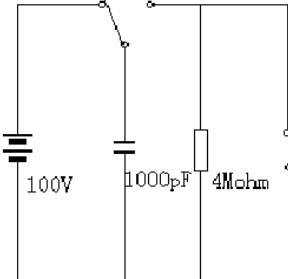
3.3 Environmental Performance Characteristics

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

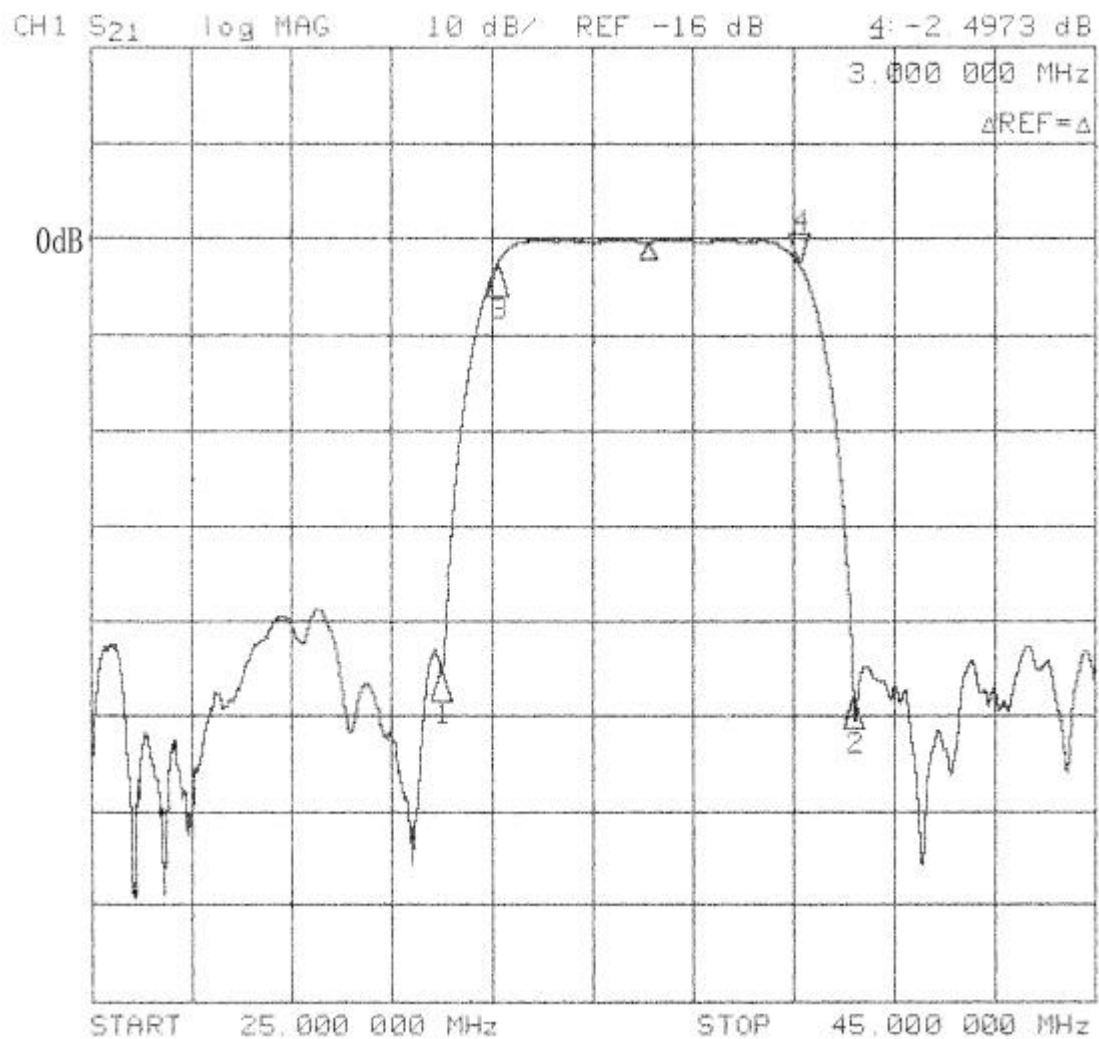
3.4 Mechanical Test

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

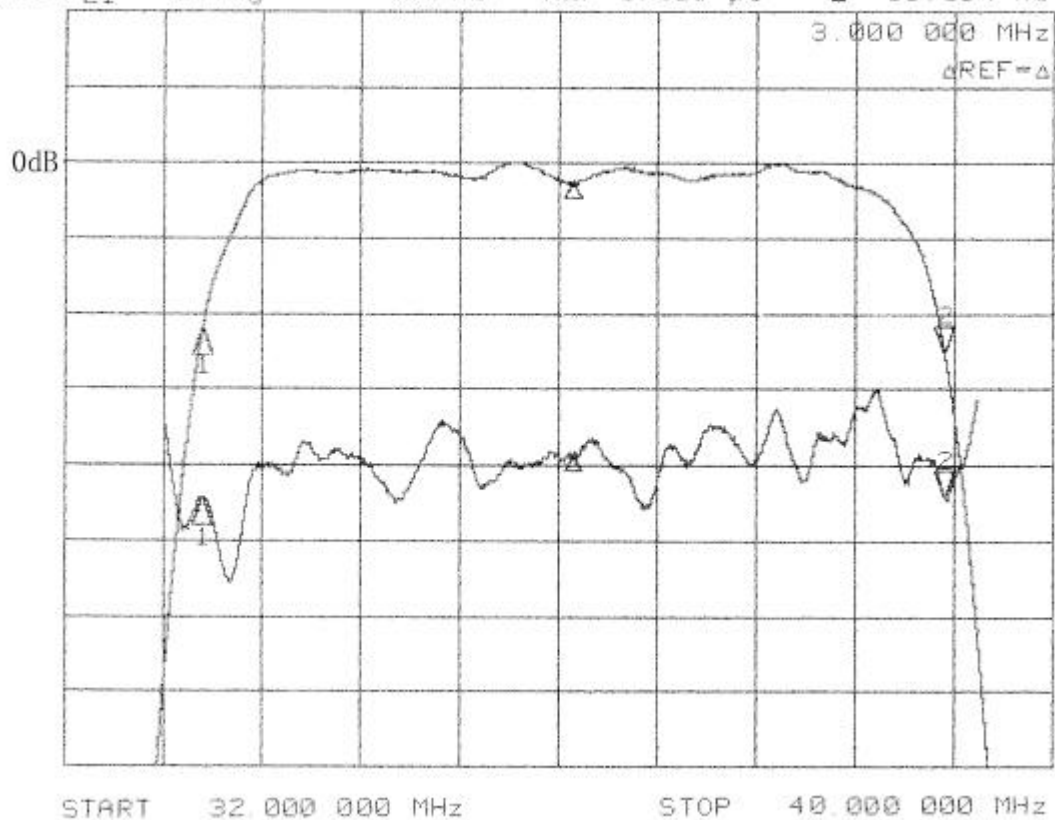
3.5 Voltage Discharge Test

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

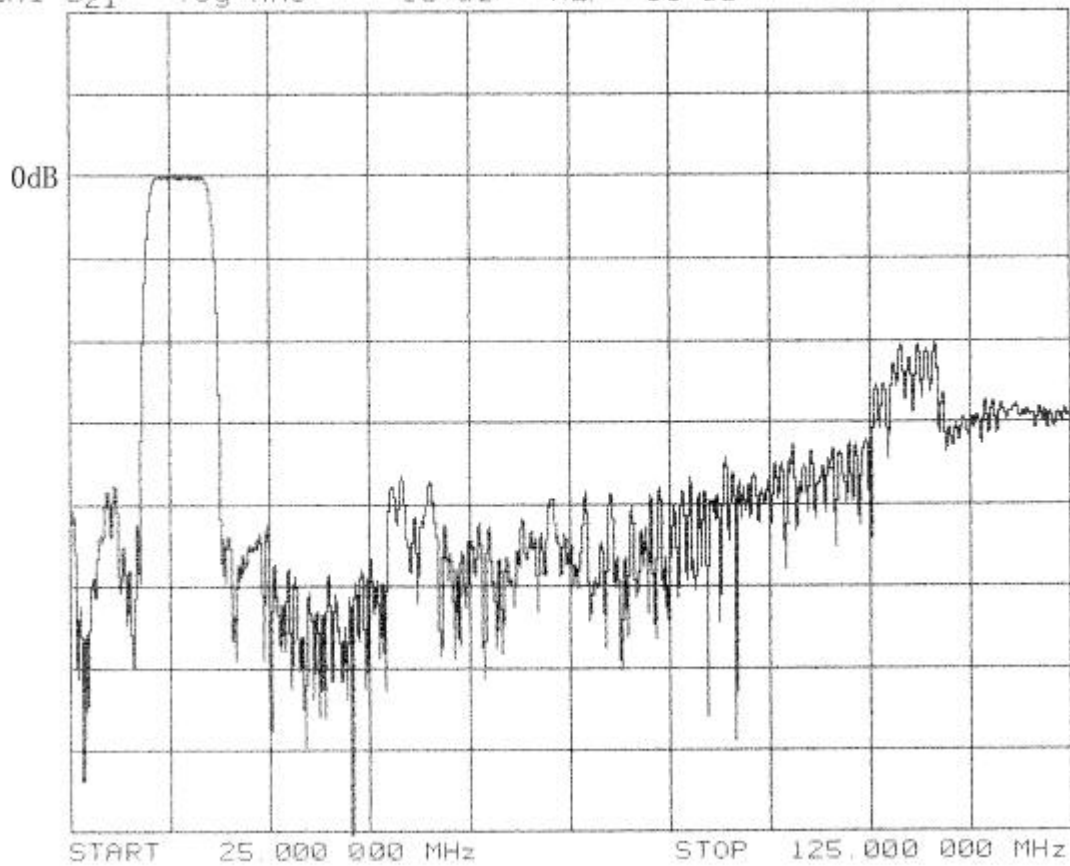
3.6 Frequency response:



CH1 S21 log MAG 1 dB/ REF -16 dB 2 -2.2715 dB
 CH2 S21 delay 30 ns/ REF 1.309 μ s 2 -16.594 ns



CH1 S21 log MAG 10 dB/ REF -16 dB



Time domain response:

