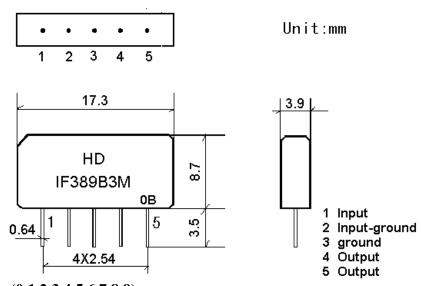
1. SCOPE

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

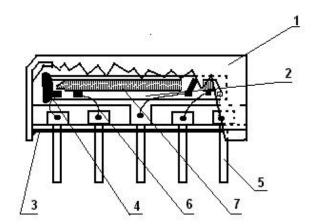
2.1 Dimension and materials

Type: IF389B3M



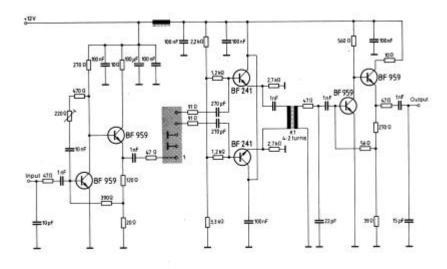
0: year(0,1,2,3,4,5,6,7,8,9)

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 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. $-10 \sim +60$

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. $-40 \sim +70$

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

Load impedance

frequency 38.90 MHz)

Impedance at 37.40 MHz:

Temperature coefficient

Zin = Rin // Cin

Zout=Rout // Cout

36.90 MHz

34.47 MHz

Input:

Output

Source impedance Zs=50

Items Freq Min max typ Insertion attenuation dB 37.40MHz 15.2 17.2 19.2 Reference level dB 38.90MHz 4.1 5.6 7.1 dB 34.47MHz 1.6 3.1 4.6 dB 32.40MHz 18.4 20.4 22.4 dB 33.40MHz 17.3 19.3 Relative attenuation dB 30.90MHz 43.0 57.0 dB 31.90MHz 38.0 48.0 dB 40.40MHz 42.0 55.0 dB 41.40MHz 41.0 54.0 25.00~30.90MHz dB 38.0 47.0 Sidelobe 40.40~45.00MHz dB 43.0 35.0 Reflected wave signal suppression $1.2 \mu \text{ s...} 6.0 \mu \text{ s after main pulse}$ 40.0 50.0 dB (test pulse 250ns, carrier frequency 37.4MHz) Feedthrough signal suppression 1.2 µ s... $1.1 \mu s$ before main pulse (test 42.0 52.0 dB pulse 250ns, carrier frequency 37.4MHz) Group delay predistortion (reference

-55

45

2.2//11.9

3.8 //2.8

-72

 $Z_L=2k$ //3pF

 $T_A = 25$

ns

ns

k //pF

k //pF

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	area of the pins should
at 260 +5/-0 for 5 sec.	be covered with solder

3.4 Mechanical Test

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

3.5 Voltage Discharge Test

3.5 Voltage Discharge Test	
Item	Allowable change of absolute
Test condition	Level at center frequency (dB)
Surge test	
Between any two electrode	
100V 1000pF 4Mohm	<1.0