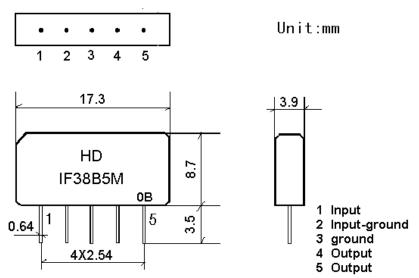
1.SCOPE

Shoulder's 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.

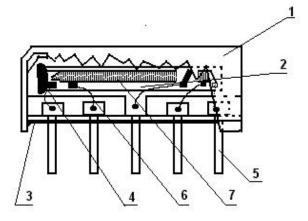
2.Construction

2.1 Dimension and materials

Manufacturer's name : SHOULDER ELECTRONICS LIMITED Type : IF38B5M

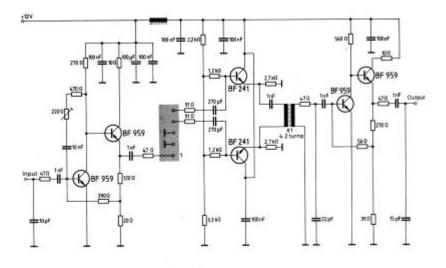


0: year(0,1,2,3,4,5,6,7,8,9) B:product in this quarter(A:1~3,B:4~6,C:7~9,D:10~12)



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	AI

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. $-40 \sim +70$

<u>Reference temperature</u> +25

3.1 Maximum Rating

DC voltage	VDC	12	V	Between any terminals
AC voltage	Vpp	10	V	Between any terminals

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Source imped	ance	Zs=50				
Load impedan	Load impedance Z _L =2k		//3pF T _A =25		=25	
Item	S	Freq	Min	typ	max	
Insertion attenuation Reference level		36.50MHz	15.5	17.5	19.5	dB
Relative attenuation		38.00MHz	4.5	6.0	7.5	dB
		33.57MHz	14.0	16.0	18.0	dB
		32.50MHz	14.0	16.0	18.0	dB
		31.50MHz	14.0	16.0	18.0	dB
		30.00MHz	42.0	62.0		dB
		39.50MHz	40.0	50.0		dB
Sidelobe -	25.00~	30.00MHz	37.0	48.0		dB
	39.50~	45.00MHz	35.0	40.0		dB
Temperature coefficient			-72		Ppm/k	

3.2 Electrical Characteristics

3.3 Environmental Performance Characteristics

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

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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

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3.6 Frequency response

