

SHOULDER

SHOULDER ELECTRONICS LIMITED

SPECIFICATION FOR APPROVAL

NO 编号: 200700190

CUSTOMER 客 户:			
PRODUCT 产 品:	SAW FILTER		
MODEL NO 型 号:	HDIF389B3D SIP5D		
PREPARED 编 制:	Fengyu	CHECKED 审 核:	York
APPROVED 批 准:	Lijiating	D A T E 日 期:	2007-02-13

CUSTOMER 客户确认意见:

CHECKED 审 核:

APPROVED 批 准:

D A T E 日 期:

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1.SCOPE

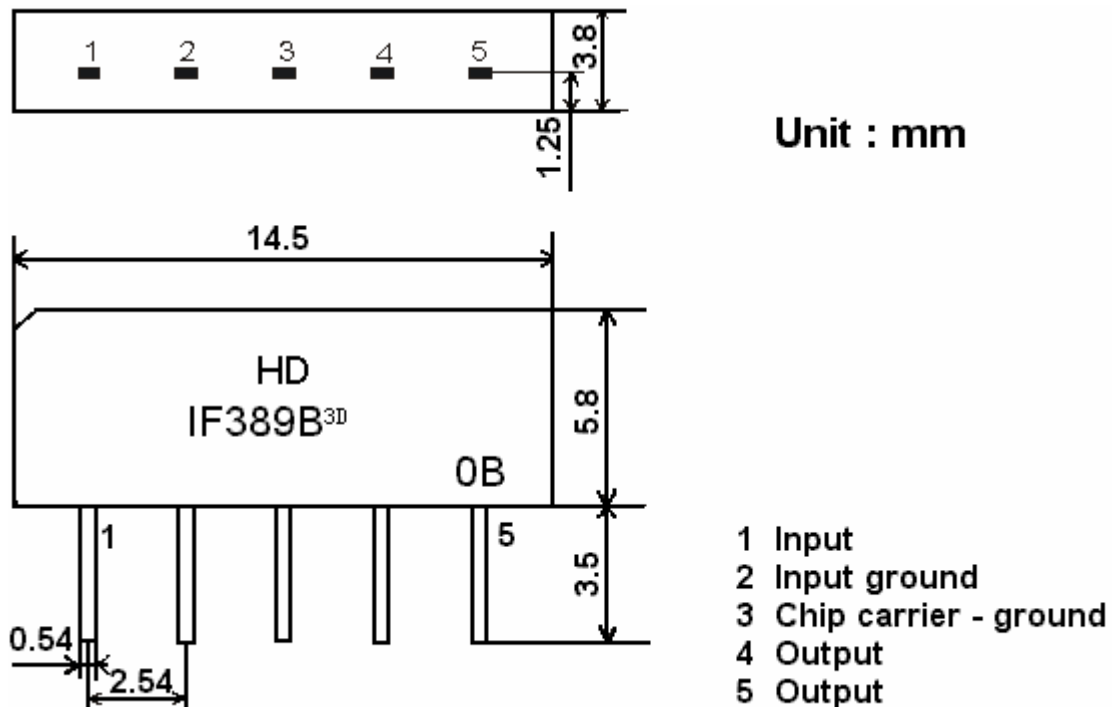
Shoulder's SAW filter series have broad line up products meeting all broadcast standard including NTSC,PAL and SECAM systems. These filters are composed of two interdigital transducers on a single-crystal, piezoelectrical chip. they are used in electronic equipments such as TV and so on.

2.Construction

2.1 Dimension and materials

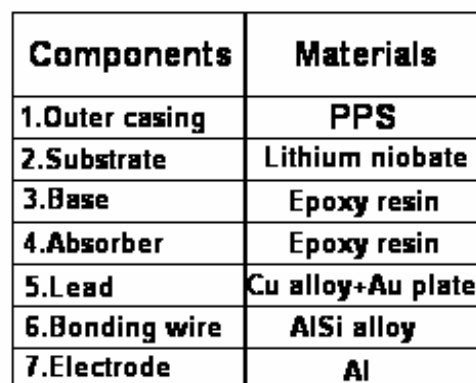
Manufacturer's name : SHOULDER ELECTRONICS LTD

Type : IF389B3D



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)



operated continuously. $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

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. $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$

Reference temperature

$+25^{\circ}\text{C}$

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 $Z_s=50\ \Omega$

Load impedance $Z_L=2\text{k}\ \Omega // 3\text{pF}$

$T_A=25^{\circ}\text{C}$

Items		Freq	Min	typ	max	
Insertion attenuation Reference level		37.40MHz	15.2	17.2	19.2	dB
Relative attenuation		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	-	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		dB
Sidelobe	25.00~30.90MHz		38.0	47.0		dB
	40.40~45.00MHz		35.0	43.0		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)						
36.90 MHz			-	-55	-	ns
34.47 MHz			-	45	-	ns
Impedance at 37.40 MHz:						
Input:	$Z_{in} = R_{in} // C_{in}$		-	2.2//11.9	-	k Ω //pF
Output	$Z_{out}=R_{out} // C_{out}$		-	3.8 //2.8	-	k Ω //pF

Temperature coefficient	-72	Ppm/k
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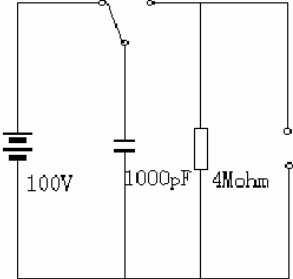
3.3 Environmental Performance Characteristics

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

3.4 Mechanical Test

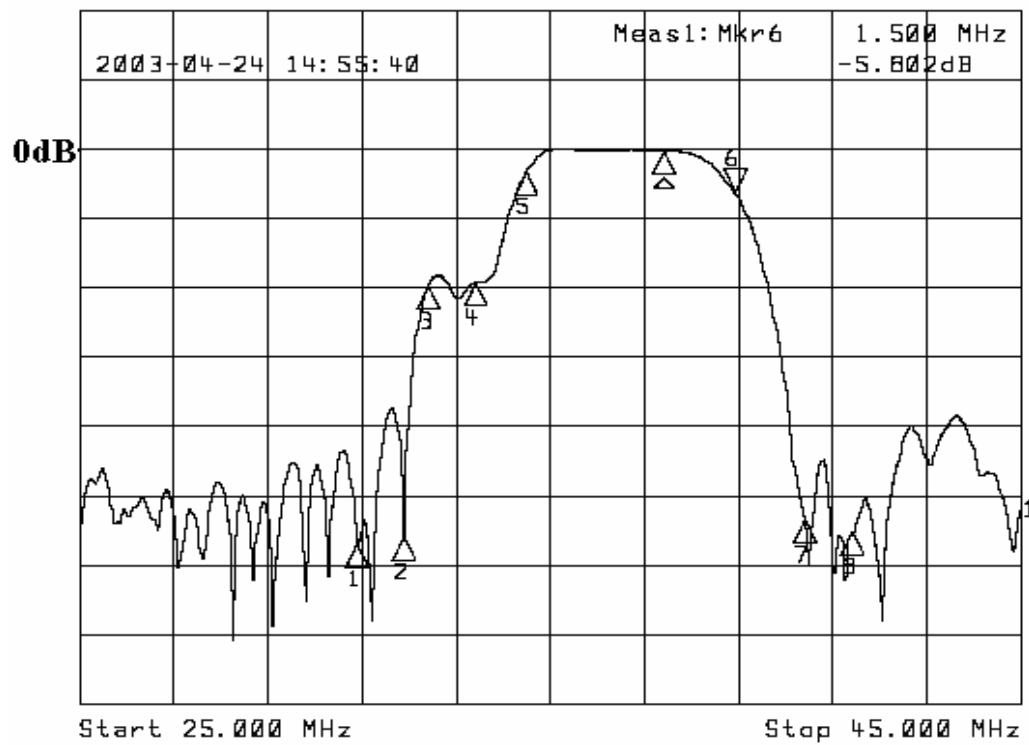
Item Test condition	Allowable change of absolute Level at center frequency(dB)
Vibration test 600-3300rpm amplitude 1.5mm 3 directions 2 H each	<1.0
Drop test On maple plate from 1 m high 3 times	<1.0
Lead pull test Pull with 1 kg force for 30 seconds	<1.0
Lead bend test 90° bending with 500g weigh 2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

►1:Transmission /M Log Mag 10.0 dB/



1: Mkr Δ (MHz)	dB	2: Mkr (MHz)	dB
1:	-6.5000	-56.952	
2:	-5.5000	-55.835	
3:	-5.0000	-19.564	
4:	-4.0000	-19.020	
5:	-2.9300	-3.212	
6:	1.5000	-5.802	
7:	3.0000	-53.414	
8:	4.0000	-55.006	

