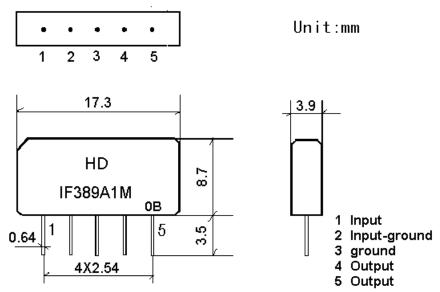
1.SCOPE

HAODA'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.

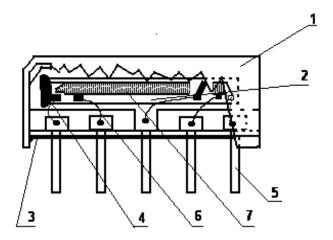
2.Construction

2.1 Dimension and materials

Manufacturer's name : HAODA ELECTRONICS Co. LTD(CHINA) Type : IF389A1M

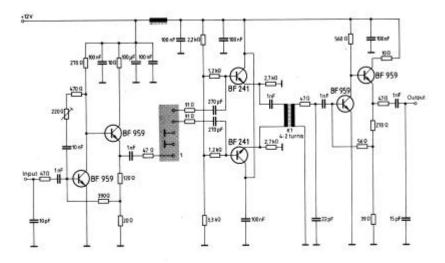


0: year(0,1,2,3,4,5,6,7,8,9) B:product in this quarter(A:1~3,B:4~6,C:7~9,D:10~12)



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

3.2 Electrical Characteristics

Source impedance Zs=50

Load impedar	nce	Z_=2K //3∣	рF	T _A =25		25
Freq		Freq	Min	typ	max	
Insertion attenuation Reference level37.40MHz		13.5	15.5	17.5	dB	
		38.90MHz	5.5	6.5	7.5	dB
		34.47MHz	1.2	2.7	4.2	dB
Polotivo atte	Relative attenuation		17.0	19.0	21.0	dB
Kelative atte			42.0	50.0	-	dB
		40.40MHz	42.0	55.0		dB
			40.0	50.0		dB
Sidelobe	25.00~	31.90MHz	34.0	40.0		dB
Sidelobe	40.40~45.00MHz		33.0	38.0		dB
Reflected wave	Reflected wave signal suppression					
1.2 μ s6.0 μ	s after main	pulse	40.0	50.0		dB
· •	(test pulse 250ns,		-0.0	50.0		uD
carrier frequency 37.4MHz)						
Feedthrough signal suppression						
$1.2 \mu \text{s} \dots 1.1 \mu \text{s}$ before main pulse		42.0	52.0	-	dB	
(test pulse 250ns,						
carrier frequency 37.4MHz)						
Group delay predistortion (reference frequency 38.90 MHz)						
(leference nequency 38.90 MHz) 36.90 MHz		-	-40	_	ns	
34.47 MHz		-	80	-	ns	
Impedance at 37.40 MHz:						
I	nput: Zin	n = Rin // Cin	-	2.6//9.5	-	k //pF
Out	tput Zou	t=Rout // Cout	-	2.9 //2.6	-	k //pF
Temp	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

	T1	
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

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

3.6 Frequency response

