



Approved by:

Checked by:

Issued by:

SPECIFICATION

PRODUCT: SAW FILTER

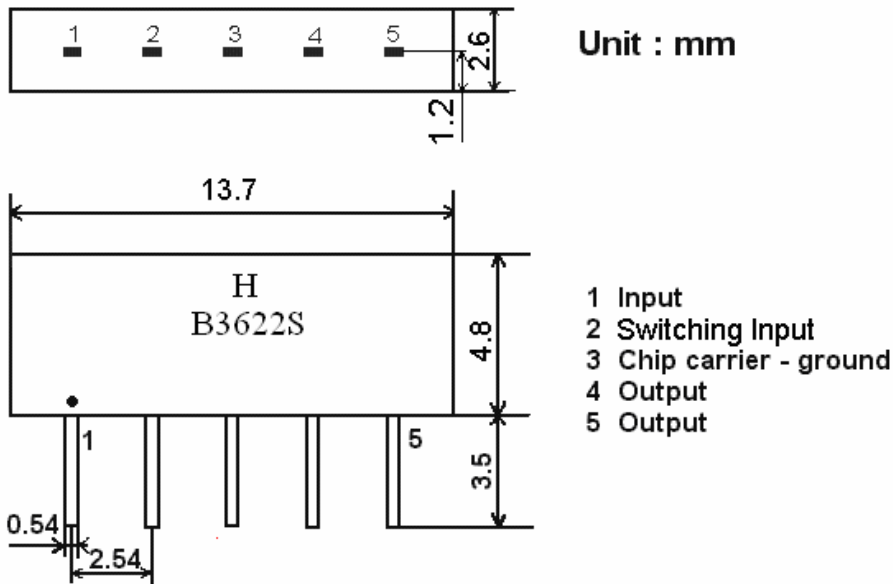
MODEL: HB3622S (X7251N) SIP5D

HOPE MICROELECTRONICS CO., LIMITED

1. Construction

1.1 Dimension and materials

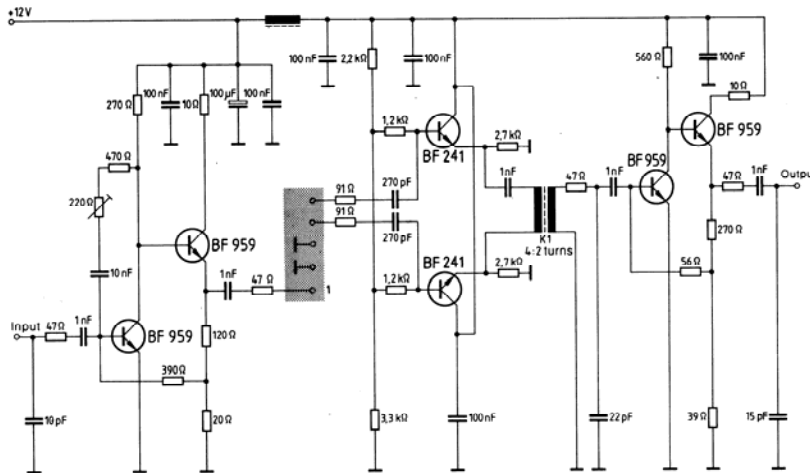
Type : B3622S



Unit : mm

- 1 Input
- 2 Switching Input
- 3 Chip carrier - ground
- 4 Output
- 5 Output

1.2. Circuit construction, measurement circuit



Test circuit for SIP-5 filter
Input impedance of the symmetrical post-amplifier: 2 kΩ in parallel with 3 pF

2.Characteristics

Standard atmospheric conditions

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

- Ambient temperature : 15°C to 35°C
- 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. $-10^{\circ}\text{C} \sim +60^{\circ}\text{C}$

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

2.1 Maximum Rating

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

2.2 Characteristics of channel 1 (switching input pin 2 connected to pin 3)

Source impedance

$$Z_s=50\ \Omega$$

Load impedance

$$Z_L=2k\ \Omega //3pF$$

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

Item	Freq	min	typ	max	
Center frequency	Fo	-	36.17	-	MHz
Insertion attenuation Reference level	36.17MHz	19.0	21.0	23.0	dB
Pass bandwidth	B1.5dB	7.4	7.7	8.0	MHz
	B3dB	7.7	8.0	8.3	MHz
	B10dB	8.6	8.9	9.2	MHz
	B30dB	8.8	9.4	10.0	MHz
Sidelobe	25.00~31.15MHz	33.0	40.0	-	dB
	41.15~42.0MHz	31.0	36.0	-	dB
	42.00~45.00MHz	34.0	41.0	-	dB
Reflected wave signal suppression 1.2 us ... 6.0 us after main pulse (test pulse 250 ns , carrier frequency 36.17 MHz)		42.0	50.0		dB
Group delay ripple (p-p) 32.25~40.05 MHz		-	50	-	ns
Temperature coefficient			-72		ppm/k

Characteristics of channel 2 (switching input pin 2 connected to pin 1)

Source impedance

$Z_S=50\ \Omega$

Load impedance

$Z_L=2k\ \Omega //3pF$

$T_A=25^\circ C$

Item	Freq	min	typ	max	
Center frequency	Fo	-	36.17	-	MHz
Insertion attenuation Reference level	36.17MHz	19.0	21.0	23.0	dB
Pass bandwidth	B1.5dB	6.4	6.7	7.0	MHz
	B3dB	6.7	7.0	7.3	MHz
	B10dB	7.7	8.0	8.3	MHz
	B30dB	7.9	8.5	9.1	MHz
Sidelobe	25.00~31.55MHz	33.0	40.0	-	dB
	40.75~45.00MHz	31.0	36.0	-	dB
Reflected wave signal suppression 1.2 us ... 6.0 us after main pulse (test pulse 250 ns , carrier frequency 36.17 MHz)		42.0	50.0		dB
Group delay ripple (p-p) 32.75~39.55 MHz		-	50	-	ns
Temperature coefficient			-72		ppm/k

2.3 Environmental Performance Characteristics

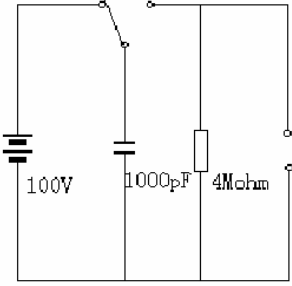
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70°C 1000H	< 1.0
Low temperature test -40°C 1000H	< 1.0
Humidity test 40°C 90-95% 1000H	< 1.0
Thermal shock -20°C==25°C==80°C 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp.260°C for 10 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

2.4 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	<1.0

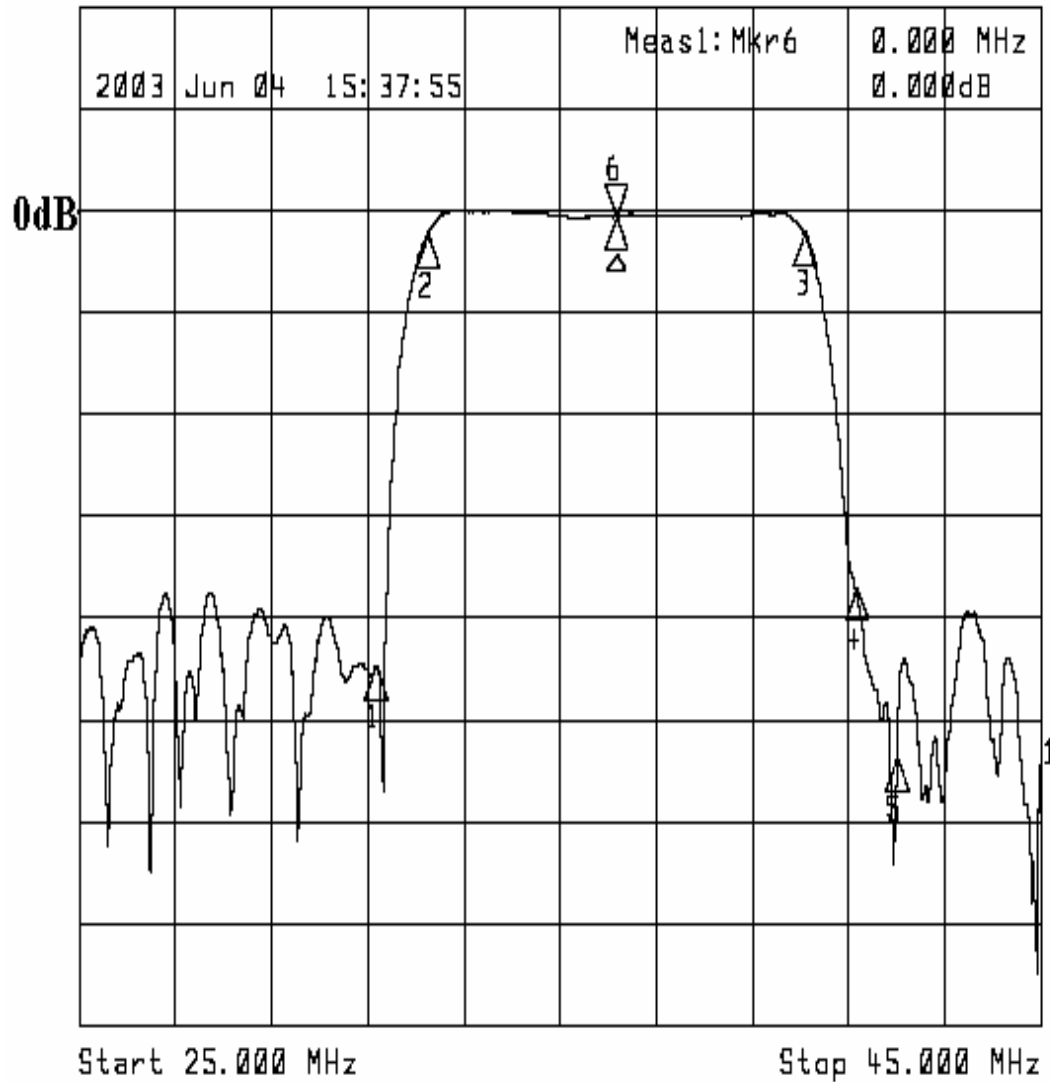
On maple plate from 1 m high 3 times	
Lead pull test Pull with 1 kg force for 30 seconds	<1.0
Lead bend test 90° bending with 500g weigh 2 times	<1.0

2.5 Voltage Discharge Test

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

2.6 Frequency response of channel 1:

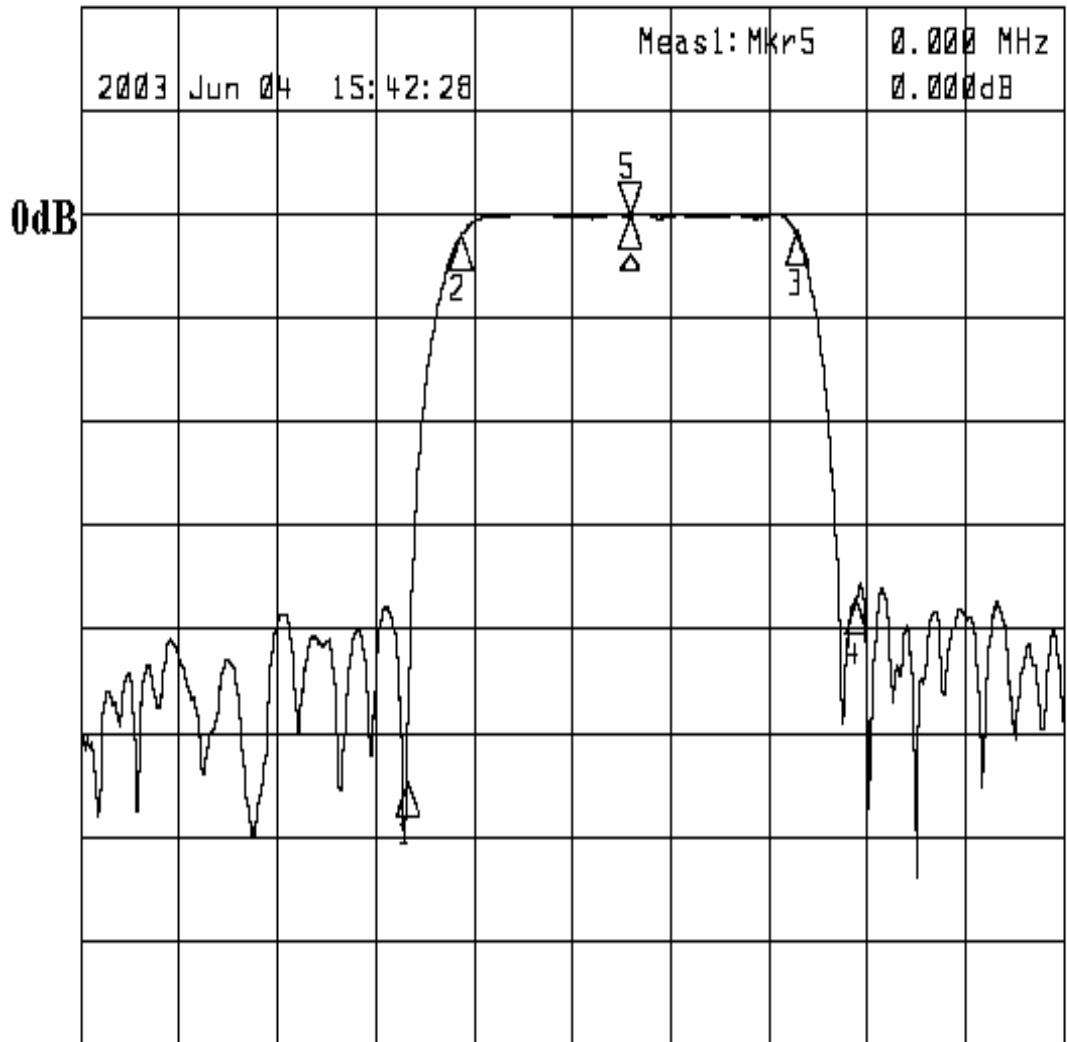
►1:Transmission /M Log Mag 10.0 dB/



1: Mkr Δ(MHz)	dB	2: Mkr (MHz)	dB
1:	-5.0200	-44.327	
2:	-3.9200	-1.771	
3:	3.8800	-1.557	
4:	4.9800	-36.572	
5:	5.8300	-53.315	
6>	0.0000	0.000	

Frequency response of channel 2:

►1:Transmission /M Log Mag 10.0 dB/



Start 25.000 MHz

Stop 45.000 MHz

1: Mkr Δ (MHz)	dB	2: Mkr (MHz)	dB
1:	-4.5200	-54.774	
2:	-3.4400	-1.854	
3:	3.3800	-1.524	
4:	4.5800	-37.183	
5:	0.0000	0.000	