Approved by:
Checked by:
Issued by:

SPECIFICATION

PRODUCT: SAW FILTER

MODEL: HB3622N （X7251N） SIP5D

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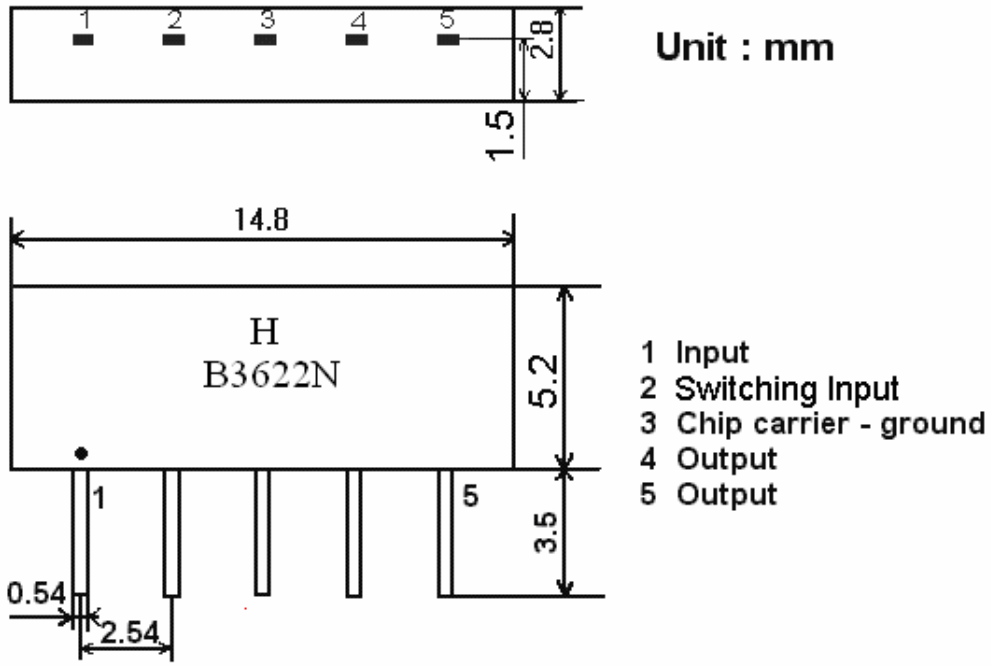
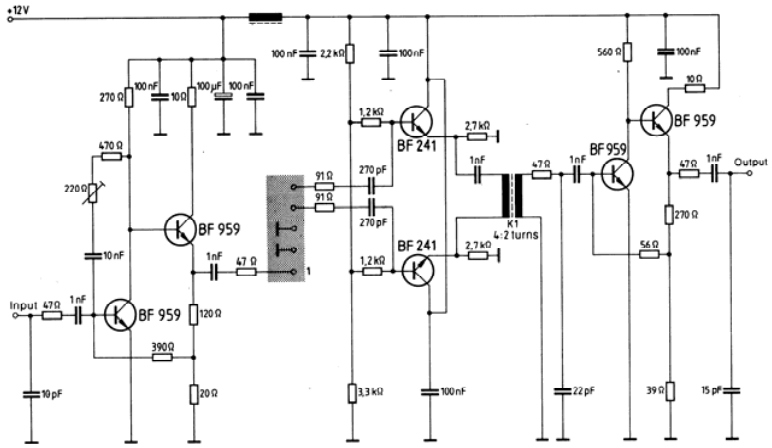
1.Construction

1.1 Dimension and materials

Type : B3622N



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 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℃ ~ +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℃ ~ +70℃

Reference temperature +25℃

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 Zs=50Ω
Load impedance Z_L=2kΩ//3pF T_A=25℃

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 Zs=50 Ω

Load impedance Z_L=2k Ω //3pF T_A=25℃

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

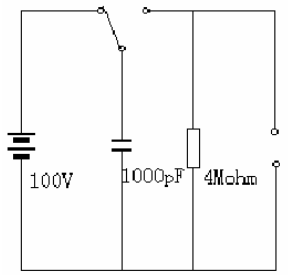
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70℃ 1000H	< 1.0
Low temperature test -40℃ 1000H	< 1.0
Humidity test 40℃ 90-95% 1000H	< 1.0
Thermal shock -20℃==25℃==80℃ 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp.260℃ for 10 sec.	<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

2.4 Mechanical Test

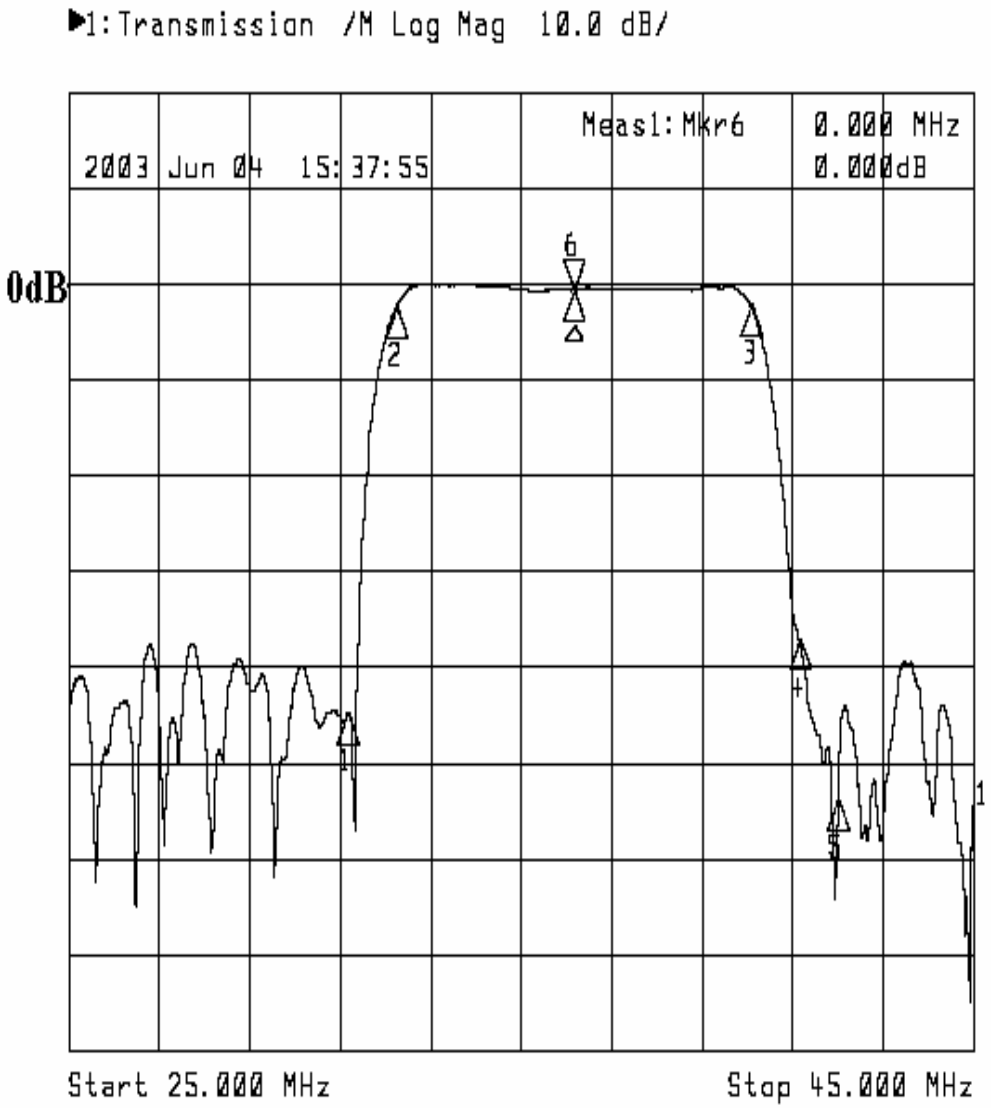
Item Test condition	Allowable change of absolute Level at center frequency(dB)
Vibration test 600-3300rpm amplitude 1.5mm 3 directions 2 H each	<1.0
Drop test On maple plate from 1 m high 3 times	<1.0

Lead pull test Pull with 1 kg force for 30 seconds	<1.0
Lead bend test 90^{o} bending with 500g weigh 2 times	<1.0

2.5 Voltage Discharge Test

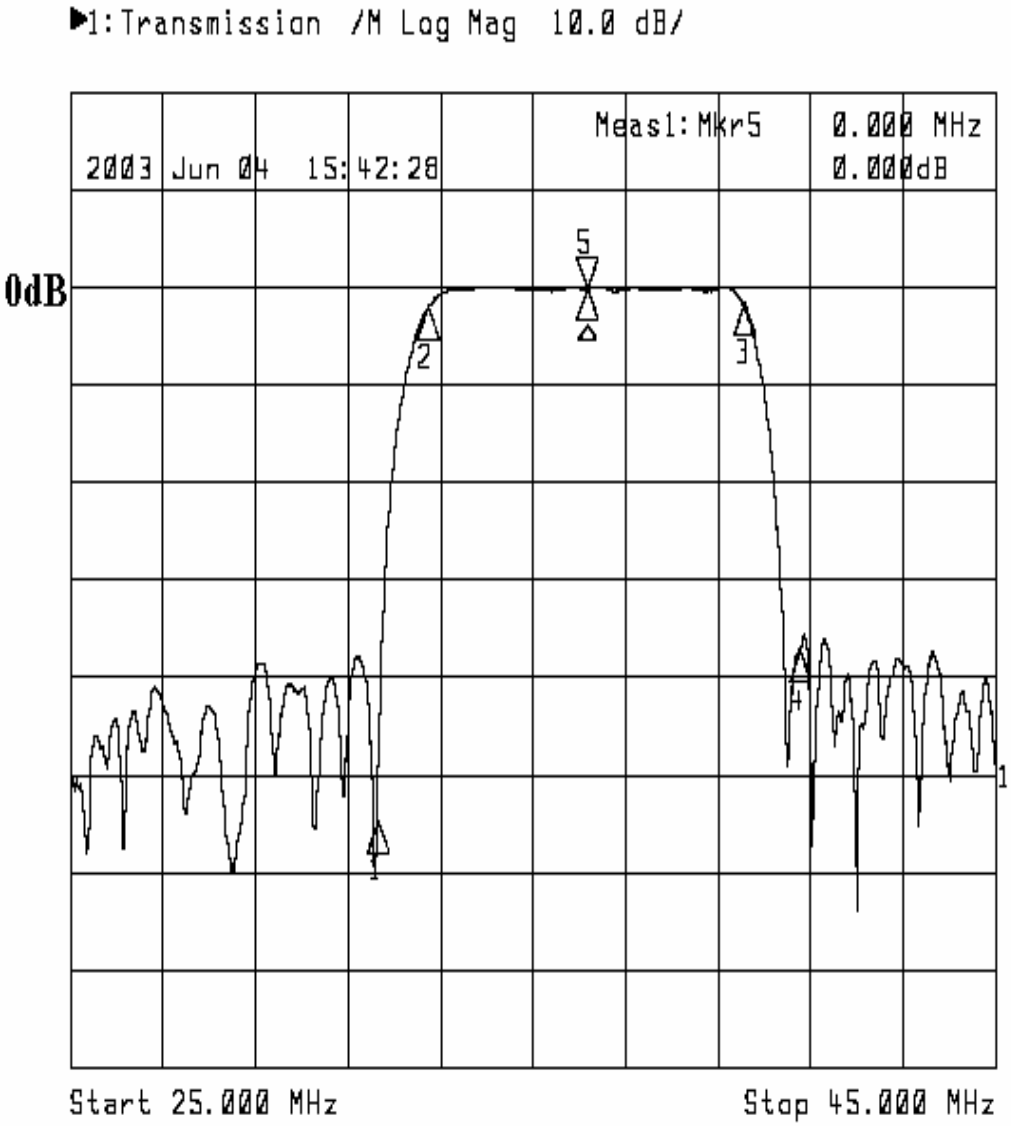
Item Test condition	Allowable change of absolute Level at center frequency(dB)
Surge test Between any two electrode 	<1.0

2.6 Frequency response of channel 1:



1: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: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		