Approved by:
Checked by:
Issued by:

SPECIFICATION

PRODUCT: SAW FILTER

MODEL: HF44503N （M3953D） SIP5D

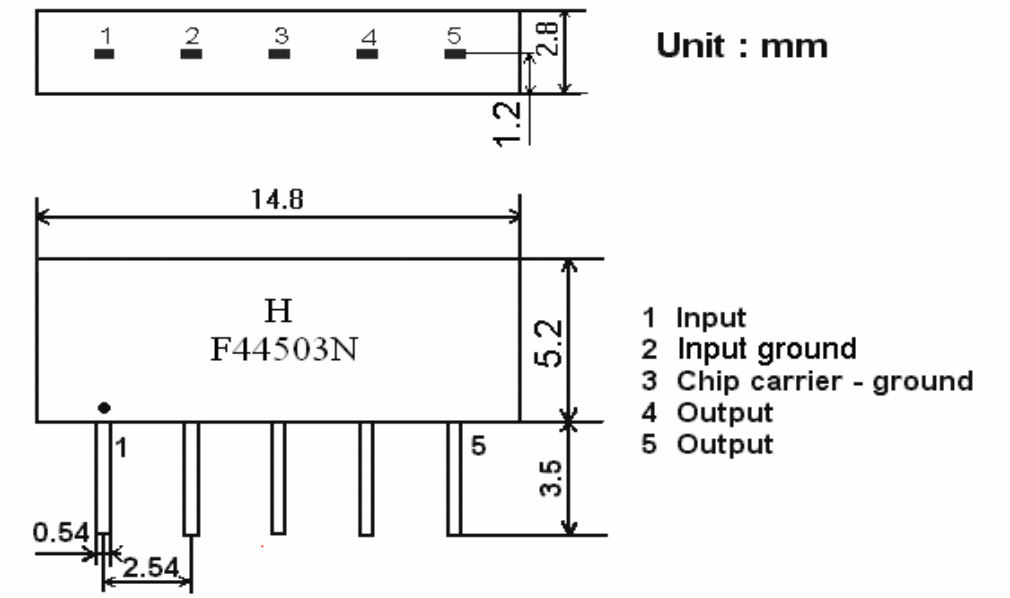
HOPE MICROELECTRONICS CO.,LIMITED

Tel:+86-755-82973806 Fax:+86-755-82973550 E-mail: sales@hoperf.com http://www.hoperf.com

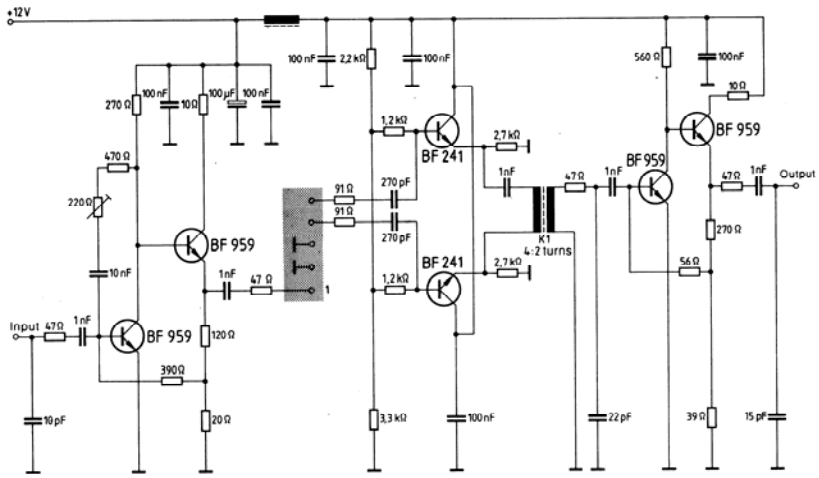
1.Construction

1.1 Dimension and materials

Type : F44503N



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 Electrical Characteristics

Source impedance Zs=50Ω

Load impedance Z_L=2kΩ//3pF T_A=25℃

Item		Freq	min	typ	max	
Insertion attenuation		44.06MHz	10.6	12.6	14.6	dB
Relative attenuation Reference level (at 45.75MHz)		45.81MHz	4.7	6.2	7.7	dB
		42.23MHz	-0.5	0.5	1.5	dB
		41.31MHz	22.0	35.0	-15.0	dB
		39.81MHz	42.0	51.0	-	dB
		47.31MHz	42.0	53.0	-	dB
Sidelobe	35.06~39.81MHz		35.0	41.0	-	dB
	47.31~55.06MHz		35.0	41.0	-	dB
Temperature coefficient of frequency			-72			Ppm/k

2.3 Environmental Performance Characteristics

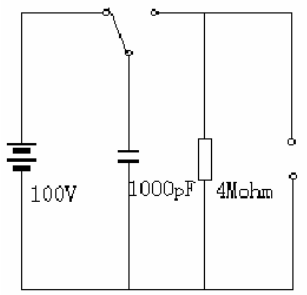
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70℃ 1000H	< 1.0
Low temperature test -40℃ 1000H	< 1.0
Humidity test 40℃ 90-95% 1000H	< 1.0
Thermal shock -20℃==25℃==80℃ 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp.260℃ for 10 sec.	<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

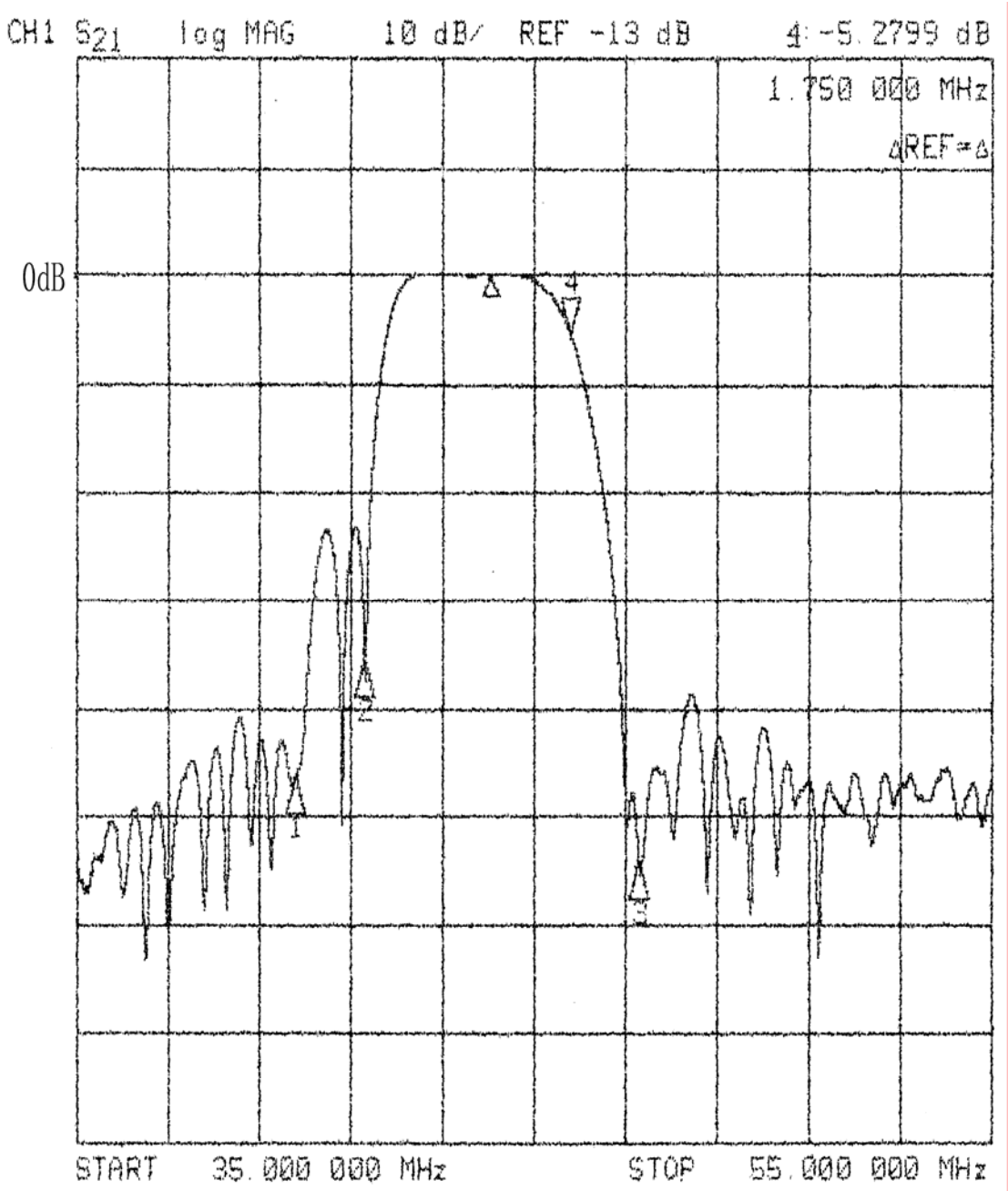
2.4 Mechanical Test

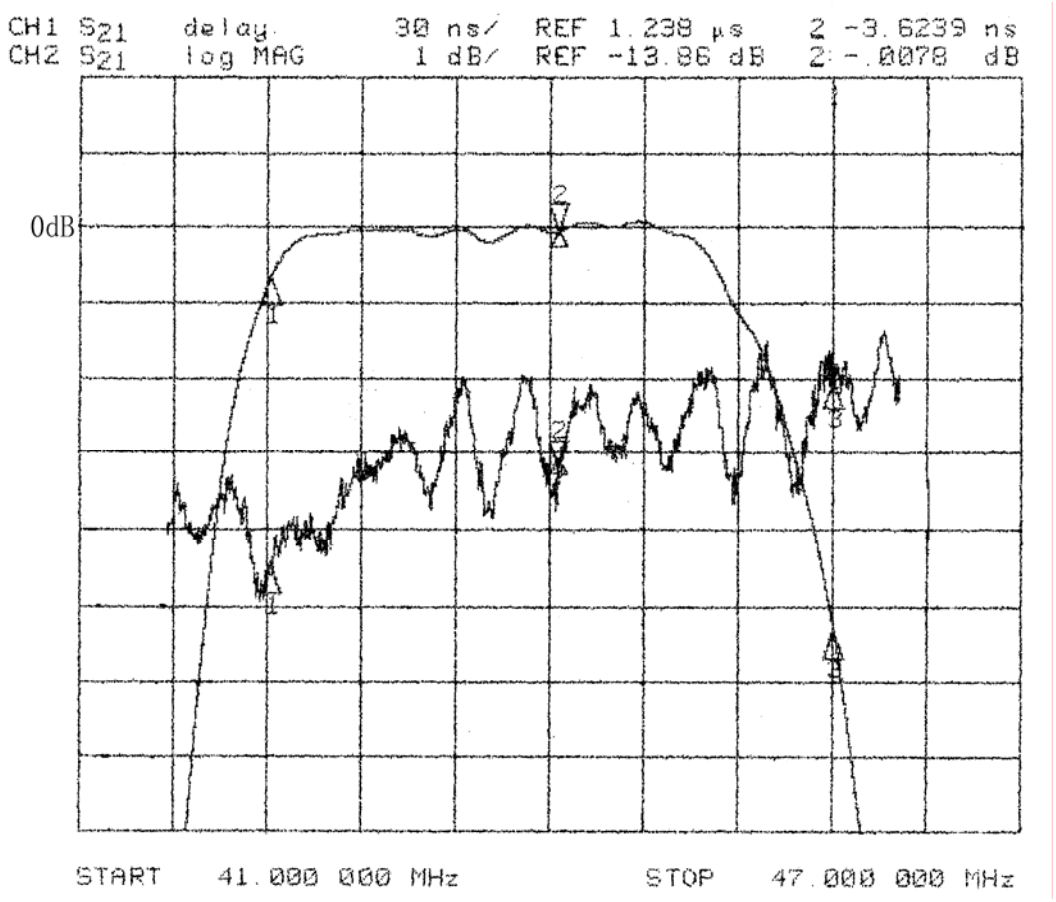
Item Test condition	Allowable change of absolute Level at center frequency(dB)
Vibration test 600-3300rpm amplitude 1.5mm 3 directions 2 H each	<1.0
Drop test On maple plate from 1 m high 3 times	<1.0
Lead pull test Pull with 1 kg force for 30 seconds	<1.0
Lead bend test 90^{o} bending with 500g weigh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

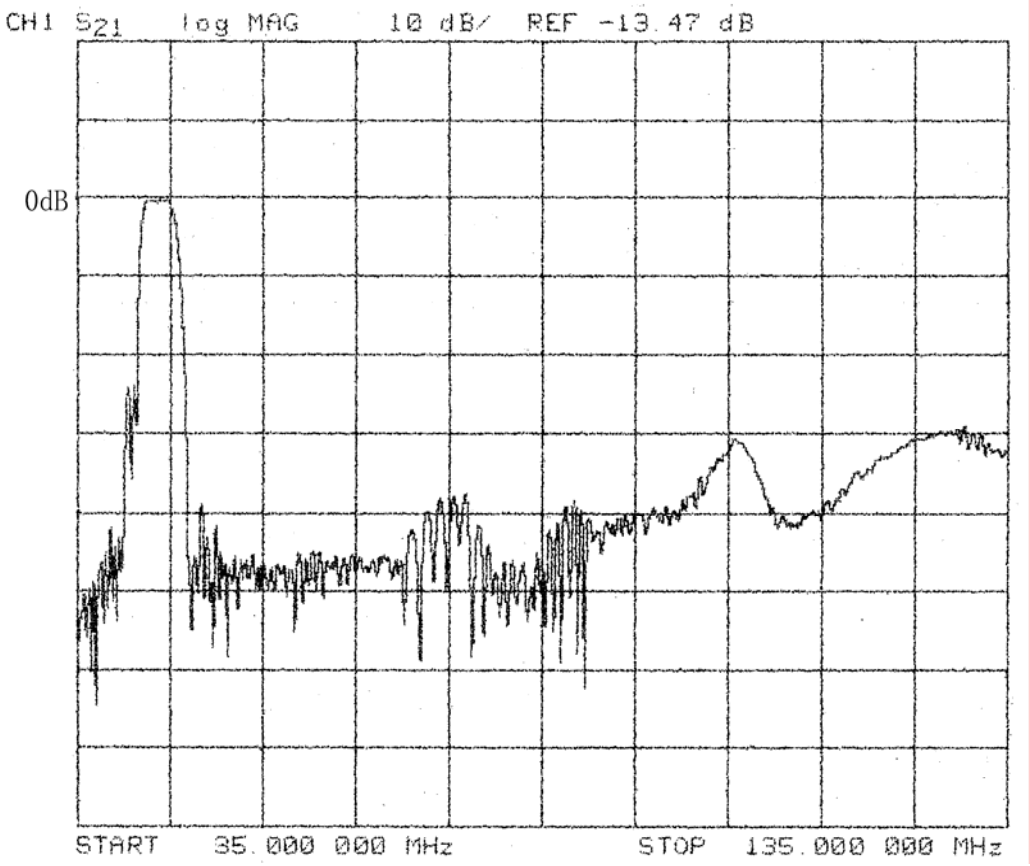
2.5 Voltage Discharge Test

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

2.6 Frequency response：




CH1 S21 delay 30 ns/ REF 1.238 µs 2 -3.6239 ns
CH2 S21 log MAG 1 dB/ REF -13.86 dB 2 -.0078 dB
0dB
START 41.000 000 MHz
STOP 47.000 000 MHz


CH1 S21 log MAG 10 dB/ REF -13.47 dB
0dB
START 35.000 000 MHz
STOP 135.000 000 MHz