



Approved by:

Checked by:

Issued by:

SPECIFICATION

PRODUCT: SAW FILTER

MODEL: HB4404D (X6941D) SIP5D

HOPE MICROELECTRONICS CO.,LIMITED

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

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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 Electrical Characteristics

Source impedance $Z_s=50\ \Omega$

Load impedance $Z_L=2k\ \Omega // 3pF$ and matching network $T_A=25^{\circ}\text{C}$

Item	Freq	min	typ	max	
Center frequency	Fo	-	44.00	-	MHz
Insertion attenuation Reference level	44.00MHz	17.7	19.7	21.7	dB
Amplitude ripple (p-p) 41.60 ... 46.40 MHz			0.5		dB
Relative attenuation	40.75MHz	25.0	32.0	-	dB
	41.31MHz	0.6	1.6	2.6	dB
	41.43MHz	-0.9	0.3	1.5	dB
	41.60MHz	-0.7	0.1	0.8	dB
	46.40MHz	-0.7	0.1	0.8	dB
	46.57MHz	-0.7	0.6	1.5	dB
	46.69MHz	0.8	2.0	3.2	dB
	47.25MHz	25.0	36.0	-	dB
Sidelobe	35.00~39.10MHz	32.0	40.0	-	dB
	39.10~40.35MHz	26.0	32.0	-	dB
	47.65~48.65MHz	24.0	30.0		dB
	48.65~55.00MHz	30.0	37.0		dB
Temperature coefficient		-18			ppm/k

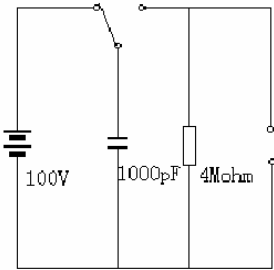
2.3 Environmental Performance Characteristics

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 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

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