



Approved by:

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Issued by:

# SPECIFICATION

PRODUCT: SAW FILTER

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MODEL: HB4301D (X6864D) SIP5D

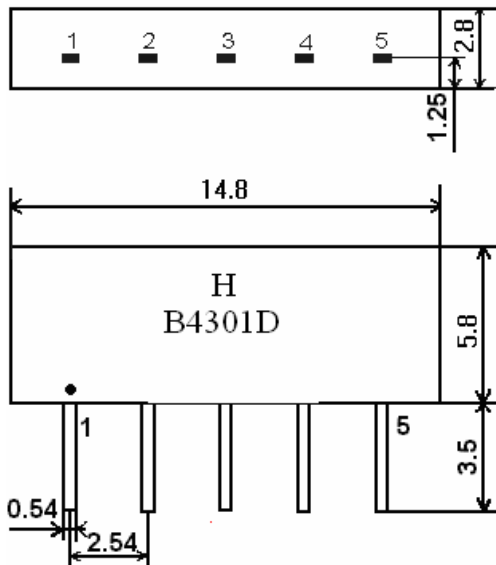
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**HOPE MICROELECTRONICS CO., LIMITED**

# 1. Construction

## 1.1 Dimension and materials

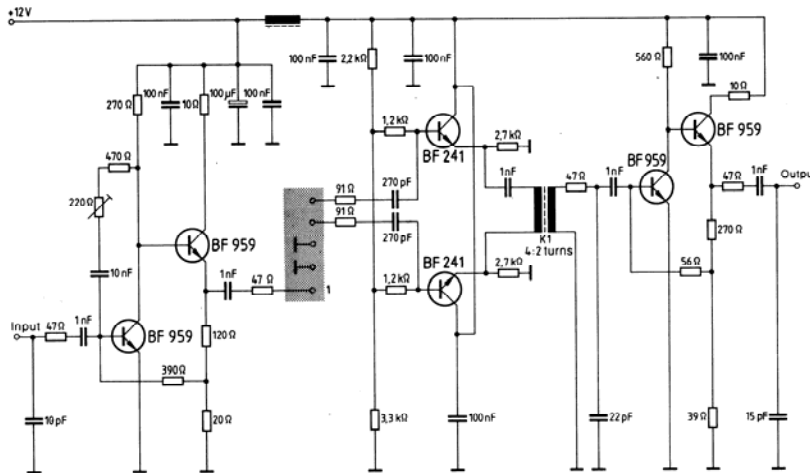
Type : B4301D



Unit : mm

- 1 Input
- 2 Input ground
- 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

<b>DC voltage</b>	<b>VDC</b>	<b>12</b>	<b>V</b>	<b>Between any terminals</b>
<b>AC voltage</b>	<b>Vpp</b>	<b>10</b>	<b>V</b>	<b>Between any terminals</b>

## 2.2 Electrical Characteristics

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	-	43.75	-	MHz
Insertion attenuation Reference level	43.81MHz	13.2	15.2	17.2	dB
Pass bandwidth	B <sub>3dB</sub>	-	6.2	-	MHz
	B <sub>30dB</sub>	-	7.6	-	MHz
Relative attenuation	40.71MHz	-	3.0	-	dB
	46.91MHz	-	2.2	-	dB
Sidelobe	35.06~39.06MHz	36.0	45.0		dB
	39.06~39.76MHz	34.0	42.0		dB
	47.86~49.66MHz	34.0	42.0		dB
	49.66~55.06MHz	36.0	46.0		dB
Temperature coefficient			-72		ppm/k

## 2.3 Environmental Performance Characteristics

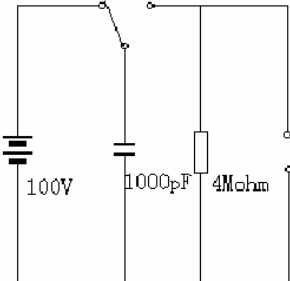
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70°C 1000H	< 1.0
Low temperature test -40°C 1000H	< 1.0
Humidity test 40°C 90-95% 1000H	< 1.0
Thermal shock -20°C==25°C==80°C 20 cycle 30M 10M 30M	< 1.0

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 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

## 2.6 Frequency response:

