



Approved by:
Checked by:
Issued by:

# SPECIFICATION

PRODUCT: SAW FILTER

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MODEL: HB3891N (X6922D) SIP5D

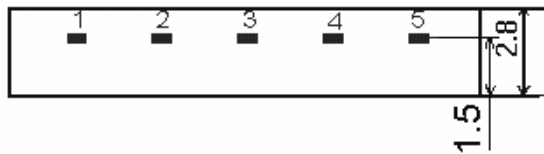
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**HOPE MICROELECTRONICS CO., LIMITED**

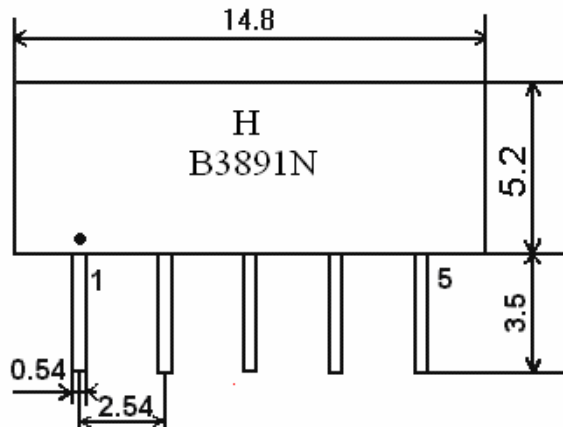
# 1. Construction

## 1.1 Dimension and materials

Type : B3891N

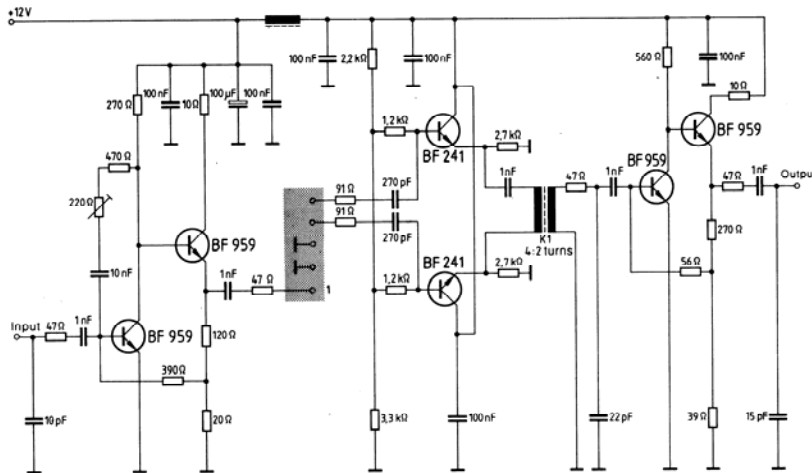


Unit : mm



- 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	-	38.912	-	MHz
Insertion attenuation Reference level	38.912MHz	16.7	18.7	20.7	dB
Pass bandwidth	B3dB	-	1.52	-	MHz
	B30dB	-	2.62	-	MHz
Sidelobe	30.01~36.27MHz	38.0	47.0		dB
	36.27~37.31MHz	36.0	44.0		dB
	40.61~41.41MHz	36.0	42.0		dB
	41.41~50.01MHz	38.0	45.0		dB
Temperature coefficient			-18		ppm/k

## 2.3 Environmental Performance Characteristics

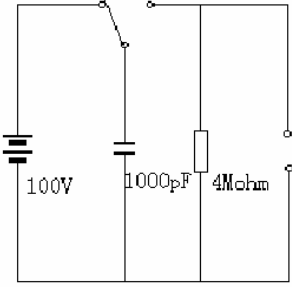
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test $70^{\circ}\text{C}$ 1000H	< 1.0
Low temperature test $-40^{\circ}\text{C}$ 1000H	< 1.0
Humidity test $40^{\circ}\text{C}$ 90-95% 1000H	< 1.0
Thermal shock $-20^{\circ}\text{C} \rightleftharpoons 25^{\circ}\text{C} \rightleftharpoons 80^{\circ}\text{C}$ 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp. $260^{\circ}\text{C}$ for 10 sec.	< 1.0
Soldering	More then 95% of total

Immerse the pins melt solder at 260°C+5/-0°C for 5 sec.	area of the pins should be covered with solder
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**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:

