



Approved by:
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# SPECIFICATION

PRODUCT: SAW FILTER

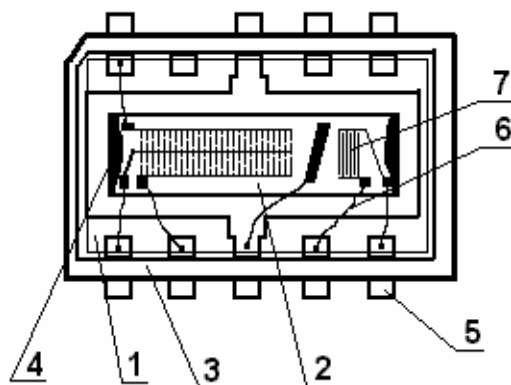
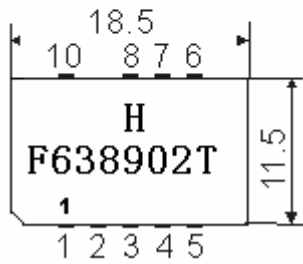
MODEL: HF638902T (K6259K) DIP10K

**HOPE MICROELECTRONICS CO., LIMITED**

# 1. Construction

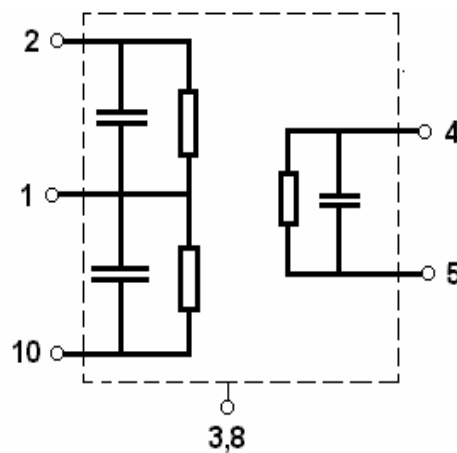
## 1.1 Dimension and materials

Type : F638902T

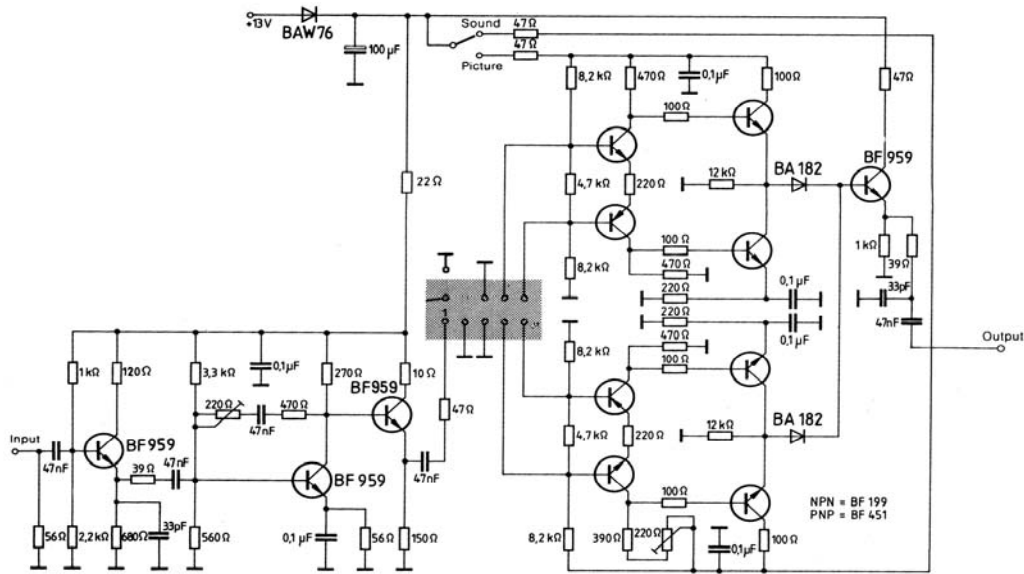


Components	Materials
1.Outer casing	PPS
2.Substrate	Lithium niobate
3.Base	PPS
4.Absorber	Epoxy resin
5.Lead	Cu alloy+Au plate
6.Bonding wire	AlSi alloy
7.Electrode	Al

- 1 Input
- 2 Input - ground
- 3;8 Chip carrier - ground
- 4;5 Output
- 6;7 Not connected
- 9 Free
- 10 Switching input



## 1.2. Circuit construction, measurement circuit



Test circuit for DIP-10 filter

Input impedance of the symmetrical post-amplifier: 2 kΩ in parallel with 5 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°C ~ +60°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°C ~ +70°C

Reference temperature +25°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:

### Characteristics in M/N mode (switching input pin 10 connected to input 1)

Source impedance

$Z_S=50\ \Omega$

Load impedance

$Z_L=2k\ \Omega //3pF$

$T_A=25^\circ C$

Item	Freq	min	typ	max	
Insertion attenuation Reference level	37.40MHz	14.3	16.3	18.3	dB
Relative attenuation	38.90MHz	4.2	5.7	7.2	dB
	35.32MHz	0.1	1.6	3.1	dB
	34.40MHz	15.6	17.6	19.6	dB
	32.90MHz	42.0	51.0	-	dB
	40.40MHz	40.0	47.0	-	dB
Sidelobe	25.00~32.90MHz	35.0	44.0		dB
	40.40~45.00MHz	35.0	43.0		dB
Temperature coefficient			-72		ppm/k

### Characteristics in B/G mode (switching input pin 10 connected to ground input 2)

Source impedance

$Z_S=50\ \Omega$

Load impedance

$Z_L=2k\ \Omega //3pF$

$T_A=25^\circ C$

Item	Freq	min	Typ	max	
Insertion attenuation Reference level	37.40MHz	14.5	16.5	18.5	dB
Relative attenuation	38.90MHz	4.1	5.6	7.1	dB
	34.47MHz	-1.3	0.2	1.7	dB
	32.40MHz	15.7	17.7	19.2	dB
	33.40MHz	14.5	16.5	18.5	dB
	30.90MHz	40.0	50.0	-	dB
	40.40MHz	40.0	48.0	-	dB
Sidelobe	25.00~30.90MHz	35.0	44.0		dB
	40.40~45.00MHz	32.0	39.0		dB
Temperature coefficient			-72		ppm/k

## 2.3 Environmental Performance Characteristics

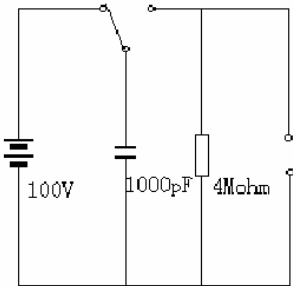
Item Test condition	Allowable change of absolute Level at center frequency(dB)
High temperature test 70°C 1000H	< 1.0
Low temperature test -40°C 1000H	< 1.0
Humidity test 40°C 90-95% 1000H	< 1.0
Thermal shock -20°C==25°C==80°C 20 cycle 30M 10M 30M	< 1.0
Solder temperature test Sold temp.260°C for 10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