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# **SPECIFICATION**

PRODUCT: SAW FILTER

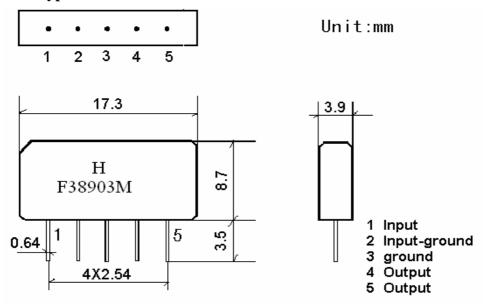
MODEL: HF38903M (G1962M) SIP5K

# HOPE MICROELECTRONICS CO.,LIMITED

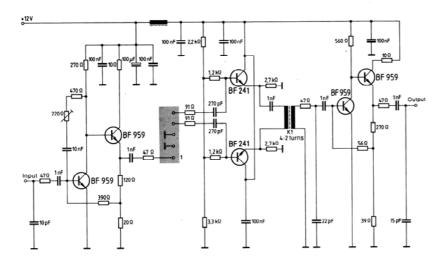
#### 1.Construction

#### 1.1 Dimension and materials

Type : F38903M



#### 1.2. Circuit construction, measurement circuit



Test circuit for SIP-5 filter Input impedance of the symmetrical post-amplifier: 2 k $\Omega$  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  $: 15^{\circ}\mathbb{C}$  to  $35^{\circ}\mathbb{C}$ 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°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

 $Zs=50 \Omega$ 

Load impedance

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

 $T_A=25^{\circ}C$ 

Educa impedance EL-ER-		- // SP1		1 A-23 C		
Items		Freq	Min	typ	max	
Insertion attenuation Reference level		37.40MHz	14.8	16.8	18.8	dB
		38.90MHz	4.4	5.9	7.4	dB
		34.47MHz	0.8	2.3	3.8	dB
Relative attenuation		33.40MHz	17.9	19.9	21.9	dB
		30.90MHz	40.0	55.0		dB
		31.90MHz	40.0	50.0		dB
		32.40MHz	42.0	54.0		dB
		40.40MHz	40.0	52.0		dB
		41.40MHz	40.0	54.0		dB
Sidelobe		31.90MHz	35.0	43.0		dB
		45.00MHz	35.0	40.0		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	
$-20^{\circ}\text{C} == 25^{\circ}\text{C} == 80^{\circ}\text{C}$ 20 cycle	< 1.0
30M 10M 30M	
Solder temperature test	×10
Sold temp.260°C for 10 sec.	< 1.0
Soldering	More then 95% of total
Immerse the pins melt solder	area of the pins should
at $260^{\circ}\text{C} + 5/-0^{\circ}\text{C}$ for 5 sec.	be covered with solder

# 2.4 Mechanical Test

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

# 2.5 Voltage Discharge Test

Item	Allowable change of absolute
Test condition	Level at center frequency(dB)
Surge test	
Between any two electrode	
100V 1000pF 4Mohm	<1.0

#### 2.6 Frequency response:

