



***SIPAT Co.,Ltd***

*www.sipatsaw.com*

China Electronics Technology Group Corporation No.26 Research Institute

**Approval Specification**

TO:

Part No: SP959.0B01-TD01

Customer's Part

**Customer's Approval Certificate**

Please return this copy as a certification  
of Your approval

Checked & Approval

Date



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Approved by:
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Issued by:

## **SPECIFICATION**

**MODEL**

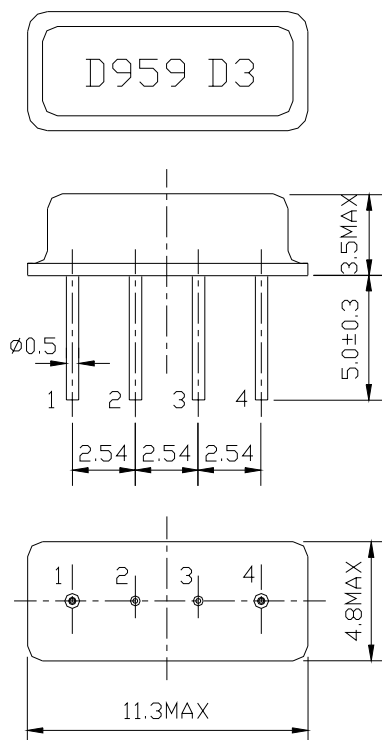
**SP959**

*SURFACE ACOUSTIC WAVE FILTER*

## 1. Package Dimension

(F-11 )

Unit: mm



Pin No.	Functions
1.	Input
2.	Ground
3.	Ground
4.	Output

## 2. Marking

**D 959    D3**

- (1) Color: Black or Blue
- (2) D: SIPAT Manufacture's logo
- (3) 959: Center Frequency (MHz)
- (4) D3: Date code

D  
Month code

3  
Last figure of year

Month	1	2	3	4	5	6	7	8	9	10	11	12
Month code	A	B	C	D	E	F	G	H	I	J	K	L

e.g.: " D3 " means April of 2003



## 3. Performance

### 3.1 Application

Low-Loss SAW Filter of Cordless Phone System.

Center Frequency: 959.0 MHz.

### 3.2 Maximum Rating

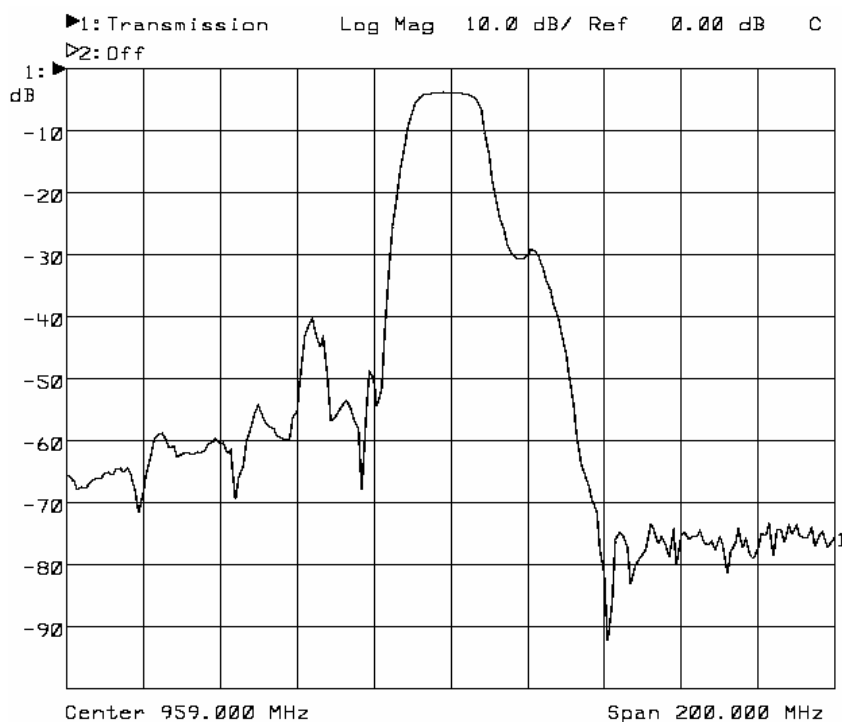
Operation Temperature	-10℃ to +60℃
Storage Temperature Range	-25℃ to +70℃
DC Permissive Voltage	10V DC max.
Maximum Input Power	0 dBm

### 3.3 Electronic Characteristics

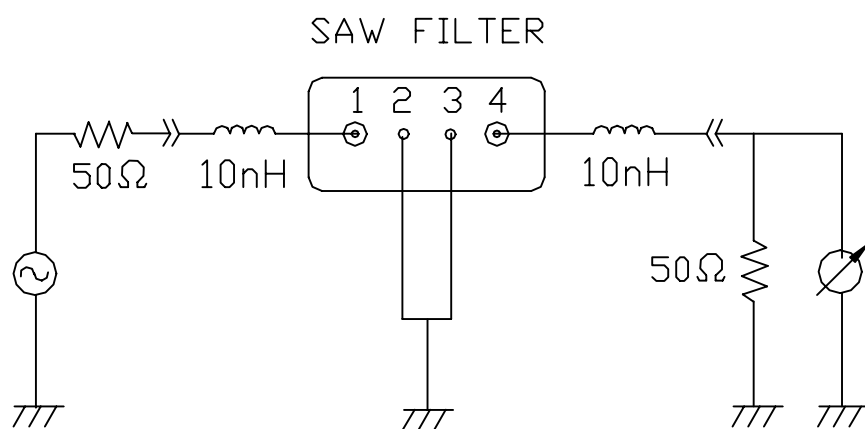
Item	Frequency (MHz)	Specification
Center Frequency ( $f_o$ )	959.0	
Passband Width	$f_o \pm 1.0$	
Insertion Loss	Passband	3.5 dB max.
Ripple Deviation	Passband	1.5 dB max.
Stop Band Suppression	$f_o - 46 \sim f_o - 41$ $f_o - 23 \sim f_o - 20$ $f_o + 20 \sim f_o + 23$	40 dB min. 30 dB min. 20 dB min. 40 dB min.
Terminating Impedance		$50 + j60.3\Omega$



## 3.4 Frequency Characteristics



## 3.5 Test Circuit





## 4. Reliability

4.1 Mechanical Shock: The components shall remain within the electrical specifications after 1000 shocks, acceleration  $392\text{m/s}^2$ , duration 6 milliseconds..

4.2 Vibration Fatigue: The components shall remain within the electrical specifications after loaded vibration at 10~120 Hz, amplitude 1.5 mm, X,Y,Z, direction, for 2 hours.

4.3 Terminal Strength: The components shall remain within the electrical specifications after pulled 2 kgs weight for 10 seconds towards an axis of each terminal.

4.4 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the  $85^{\circ}\text{C}\pm 2^{\circ}\text{C}$  for 960 hours, then kept at room temperature for 2 hours.

4.5 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the  $-25^{\circ}\text{C}\pm 2^{\circ}\text{C}$  for 960 hours, then kept at room temperature for 2 hours.

4.6 Temperature Cycle: The components shall remain within the electrical specifications after 5 cycles of high and low temperature testing ( one cycle:  $80^{\circ}\text{C}$  for 30 minutes→  $25^{\circ}\text{C}$  for 5 minutes→  $-25^{\circ}\text{C}$  for 30 minutes )than kept at room temperature for 2 hours.

4.7 Humidity Test: The components shall remain within the electrical specifications after being kept at the condition of ambient temperature  $40\pm 2^{\circ}\text{C}$ , and 90~95% RH for  $960\pm 5$  hours, then kept at room temperature and normal humidity for 1.5 hours.

4.8 Solder-heat Resistance: The components shall remain within the electrical specifications after dipped in the solder at  $350^{\circ}\text{C}\pm 5^{\circ}\text{C}$  for  $5\pm 1$  seconds, then kept at room temperature for 10 mins. (Terminal must be dipped leaving 1.5 mm from the case).

4.9 Solderability: Solderability of terminal shall be kept at more than 80% after dipped in the solder flux at  $230^{\circ}\text{C}\pm 5^{\circ}\text{C}$  for  $5\pm 1$  seconds.

4.10 Storage: The components shall meet the electrical and mechanical specifications after 5 years storage, if stored within the temperature range of  $-20^{\circ}\text{C}\sim +60^{\circ}\text{C}$  and in the humidity of 20 to 60% r.h.



## 5. Remarks

### 5.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

### 5.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning.

### 5.3 Soldering

Only leads of component may be soldered. Please avoid soldering another part of component.