

# Data Sheet 1950MHz SAW 3030 SPT1950M3030A

V1.0

#### **Description:**

The Spectron SPT1950M3030A is a SAW filter that work frequency ranges from1920 to 1980MHz.It is designed for applications in IOT equipments and Information& Communications filed.

The SPT1950M3030A provides +20 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT1950M3030A exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT1950M3030A is compatible with high volume, lead-free SMT soldering processes.

#### **Features:**

- Single-Ended Input and Output
- Terminating Impedance: 50 Ω
- RoHS Compliant

#### **Specifications:**

- Operation Temperature:-40°C to +85°C
- Usable passband 60.0 MHz
- Compact miniature size
  - $-3.0 \text{ mm} \times 3.0 \text{ mm footprint}$
  - 1.25 mm max-height

#### **Applications:**

- IOT equipments
- Information& Communications Devices

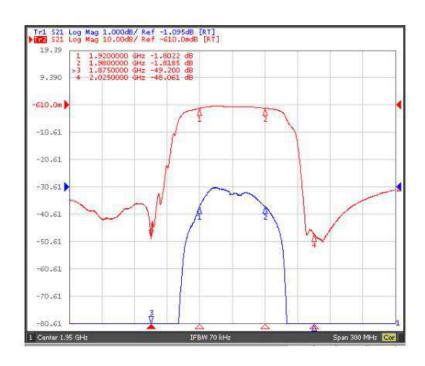
## **Electrical Specifications**

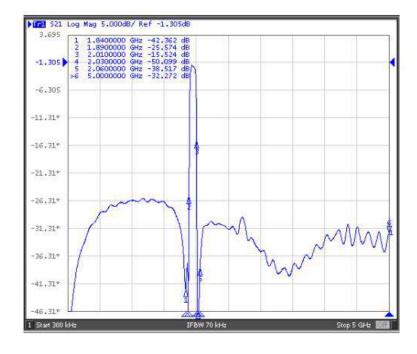
**Table 1** Electrical Specifications.

Test	Temperature:	25°C±2°C

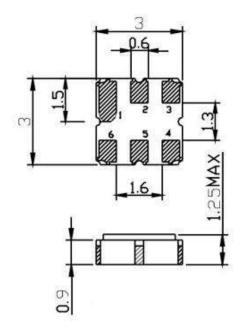
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		1950.00		MHz
Insertion Loss(min)	IL		1.1	1.6	dB
Insertion Loss 1920.00 – 1980.00MHz	IL		1.9	3.0	dB
Amplitude Ripple (p-p)  1920.00 – 1980.00MHz	∆a		0.8	1.5	dB
Group Delay Ripple  1920.00 – 1980.00MHz	GDR		5.0	20.0	ns
Absolute Attenuation	а				
DC- 1840.00 MHz		20.0	25.0		dB
1840.00- 1890.00 MHz		15.0	23.0		dB
2010.00-2030.00 MHz		8.0	13.0		dB
2030.00-2060.00 MHz		40.0	45.0		dB
2060.00-5000.00 MHz		24.0	28.0		dB
VSWR 1920.00 – 1980.00MHz			1.8:1	2.2:1	/

Figure 1 Electrical Characteristics: Frequency response.



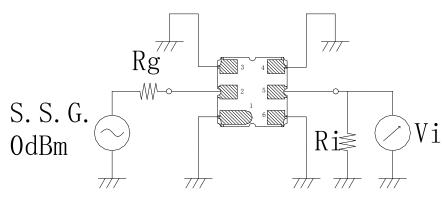


### Package & Dimensions



Pin No.	Description
2	Input
5	Output
1,3,4,6	Ground

### **Test circuit**

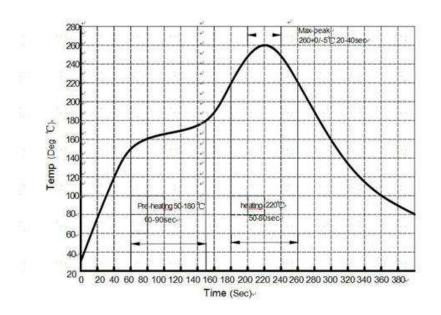


 $Rg=Ri=50 \Omega$ 

### **Maximum Ratings**

Item		Value	Unit
Operation Temperature	Т	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +125	°C
RF Power Dissipation	Р	20	dBm

#### **Recommended SMT Solder Profile**



### **Ordering Information**

Part Number	Number of Devices	Container
SPT1950M3030A	1000pcs	Tape and Reel

## Reliability

No.	Test item	Test condition	
1	Temperature Storage	Temperature: $85^{\circ}C\pm 2^{\circ}C$ , Duration: 250h, Recovery time: $2h\pm 0.5h$ (2) Temperature: $-55^{\circ}C\pm 3^{\circ}C$ , Duration: 250h, Recovery time: $2h\pm 0.5h$	
2	Humidity Test	Conditions: 60°C±2°C ,90~95% RH Duration: 250h	
3	Thermal Shock	Heat cycle conditions: TA=-55°C±3°C, TB=85°C±2°C, t1=t2=30min, Switch time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.	
4	Vibration Fatigue	Frequency of vibration: 10~55Hz  Amplitude:1.5mm  Directions: X,Y and Z  Duration: 2h	
5	Drop Test	Cycle time: 10 times Height: 1.0m	
6	Solder Ability Test	Temperature: 245°C±5°C Duration: 3.0s5.0s  Depth: DIP2/3 , SMD1/5	
7	Resistance to Soldering Heat	<ul> <li>(1) Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration: 10±1s</li> <li>(2) Temperature of Soldering Iron: 350°C±10°C, Duration: 3~4s,</li> <li>Recovery time: 2 ± 0.5h</li> </ul>	

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