

# Data Sheet 782.5MHz SAW 3030 SPT782M30E

V1.0

#### **Features:**

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 3.00x3.00x1.25mm³
- Electrostatic Sensitive Device(ESD)

#### **Specifications:**

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

#### **Applications:**

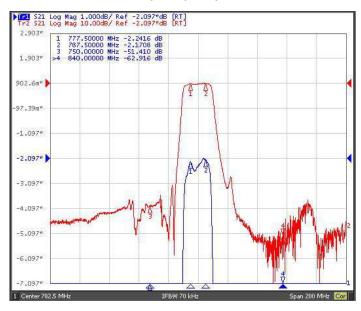
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 10.0 MHz

# **Electrical Specifications.** Test Temperature: $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$

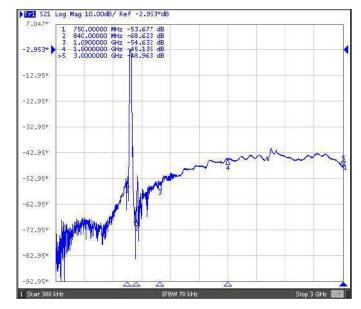
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		782.50		MHz
Insertion Loss(min)	IL		2.1	2.5	dB
Insertion Loss 777.50 - 787.50 MHz	IL		2.3	3.0	dB
Amplitude Ripple (p-p) 777.50 - 787.50 MHz	△α		0.6	1.0	dB
Group Delay Ripple 777.50 - 787.50 MHz			20.0	60.0	ns
Absolute Attenuation	α				
DC- 750.00 MHz		40.0	45.0		dB
840.00 - 1090.00 MHz		45.0	50.0		dB
1090.00 - 1800.00 MHz		40.0	43.0		dB
1800.00 - 3000.00 MHz		35.0	40.0		dB
Input VSWR 777.50 - 787.50 MHz			1.6:1	2.0:1	
Output VSWR 777.50 - 787.50 MHz			1.6:1	2.0:1	

# **Frequency Characteristics.**

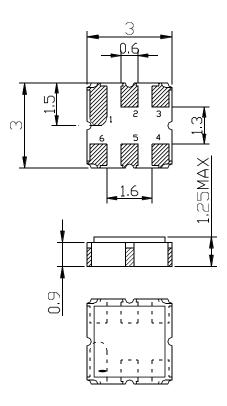
#### **Frequency Response**



#### Frequency Response (wideband)

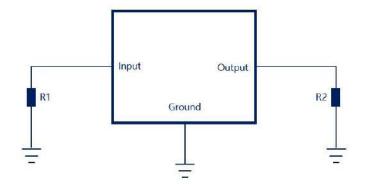


# **Package & Dimensions**



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

# Matching



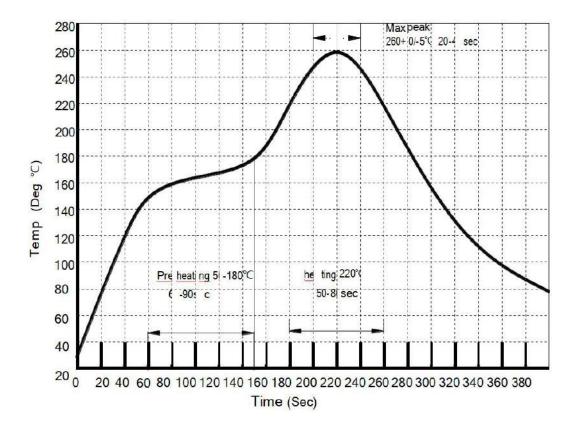
Port	Matching Component <sup>1</sup>		
Input	<b>R1</b> : <b>50</b> Ω		
Output	<b>R2</b> : 50Ω		

Matching component values shown are recommended based on the Spectron evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

# **Maximum Ratings**

ltem		Value	Unit
DC Voltage	VDC	5	V
Operation Temperature	Т	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85	°C
RF Power Dissipation	Р	20	dBm

# **Recommended Reflow Soldering Diagram**



# **Ordering Information**

Part Number	Number of Devices	Container
SPT782M30E	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  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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