

# Data Sheet 922.5MHz SAW 3030 SPT922M30E

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:**

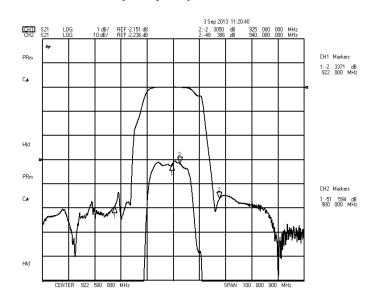
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 5.0 MHz

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

Item			Minimum	Typical	Maximum	Unit
Center Frequency		fc		922.50		MHz
Insertion Loss(min)		IL		2.3	2.7	dB
Insertion Loss	920.00 - 925.00 MHz	IL		2.5	3.0	dB
Amplitude Ripple (p-p)	920.00 - 925.00 MHz	Δα		0.5	1.0	dB
Group Delay Ripple	920.00 - 925.00 MHz	GDR		10.0	30.0	ns
Absolute Attenuation		α				
	DC - 740.00 MHz		50.0	55.0		dB
	740.00 - 900.00 MHz		42.0	46.0		dB
	940.00 - 1000.00 MHz		40.0	45.0		dB
1	000.00 - 2000.00 MHz		35.0	40.0		dB
2	000.00 - 3000.00 MHz		32.0	36.0		dB
Input VSWR	920.00 - 925.00 MHz			1.7:1	2.0:1	/
Output VSWR	920.00 - 925.00 MHz			1.7:1	2.0:1	/

# **Frequency Characteristics.**

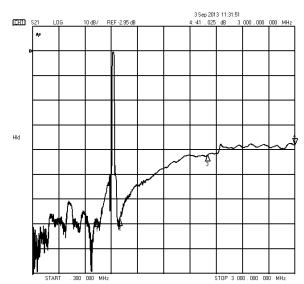
## **Frequency Response**



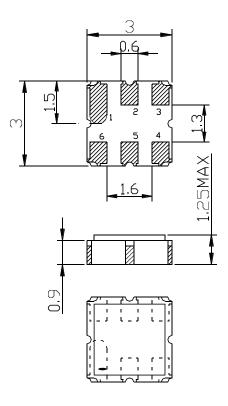
## Frequency Response (wideband)

CH1 Markers

1:-71 . 394 dB 740 . 000 MHz 2:-70 . 992 dB 1. 00000 GHz 3:-44 . 994 dB 2. 00000 GHz

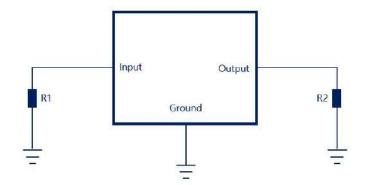


## **Package & Dimensions**



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

## Matching



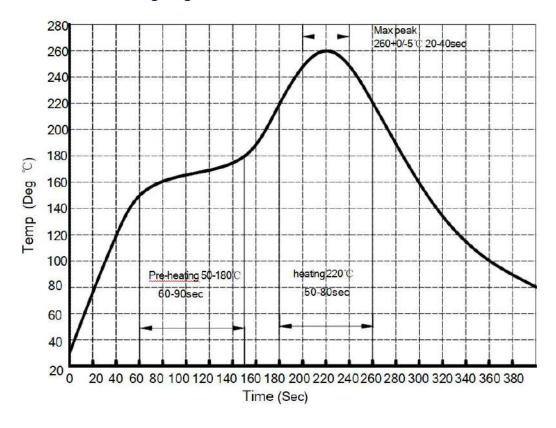
Port	Matching Component <sup>1</sup>	
Input	<b>R1</b> : <b>50</b> Ω	
Output	<b>R2</b> : <b>50</b> Ω	

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
SPT922M30E	1000pcs	Tape and Reel

#### Reliability

No.	Test item	Test condition
1	Temperature Storage	Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h  (2) Temperature: -55°C±3°C , Duration: 250h ,Recovery time: 2h±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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