



**Data Sheet**  
**670MHz SAW 3030**  
**SPT670M30E**

V1.0

**Features:**

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 3.00x3.00x1.25mm<sup>3</sup>
- Electrostatic Sensitive Device(ESD)

**Specifications:**

- Operation Temperature:-40°C to +85°C
- Compact miniature size
  - 3.0 mm × 3.0 mm footprint
  - 1.25 mm max-height

**Applications:**

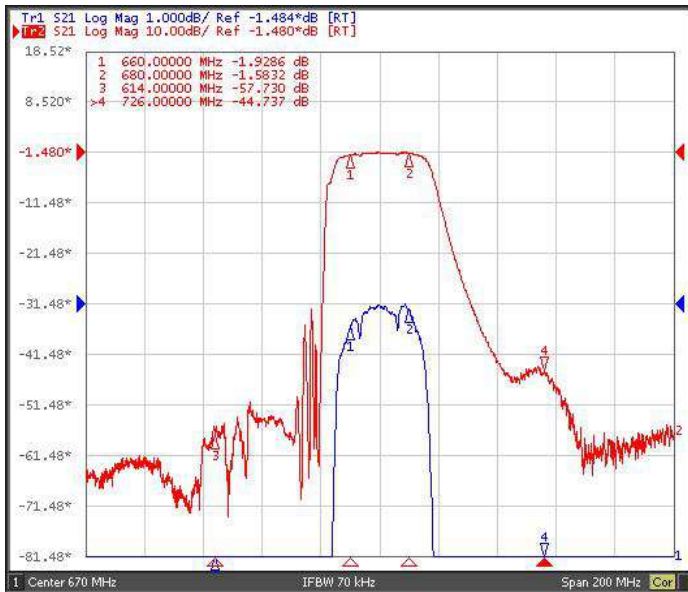
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 20.0 MHz

**Electrical Specifications.** Test Temperature: 25°C±2°C

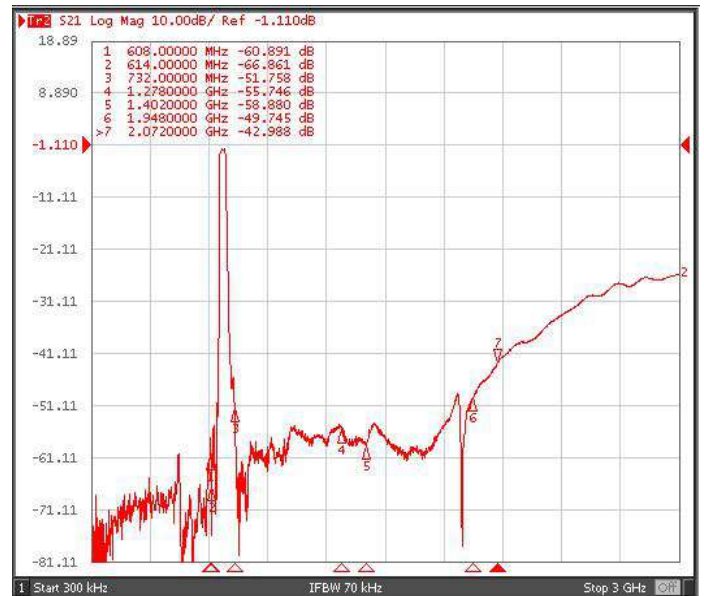
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		670.00		MHz
Insertion Loss at Center Frequency	IL		1.5	2.0	dB
Insertion Loss	660.00 - 680.00 MHz	IL	2.0	3.0	dB
Amplitude Ripple (p-p)	660.00 - 680.00 MHz	$\Delta\alpha$	0.6	1.5	dB
-2 dB Bandwidth	BW <sub>2dB</sub>	20.0	30.0		MHz
Group Delay Ripple	660.00 - 680.00 MHz	GDR	50.0	100.0	ns
Absolute Attenuation	$\alpha$				
	DC - 608.00 MHz	50.0	60.0		dB
	608.00 - 614.00 MHz	30.0	60.0		dB
	726.00 - 732.00 MHz	30.0	51.0		dB
	1278.00 - 1402.00 MHz	40.0	54.0		dB
	1948.00 - 2072.00 MHz	35.0	40.0		dB
Input VSWR at Center Frequency			1.4:1	2.0:1	/

**Frequency Characteristics.**

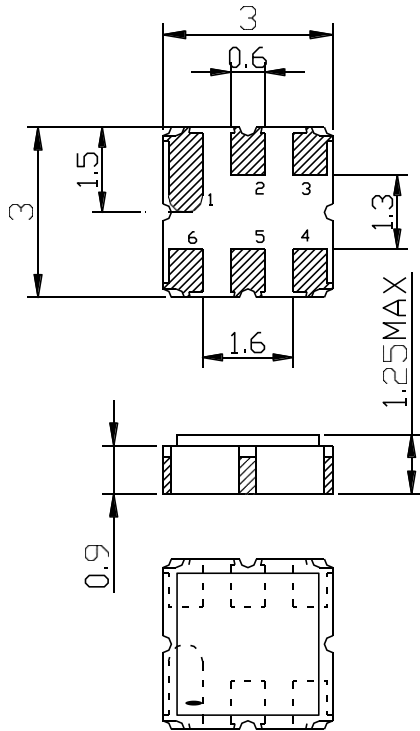
**Frequency Response**



**Frequency Response (wideband)**

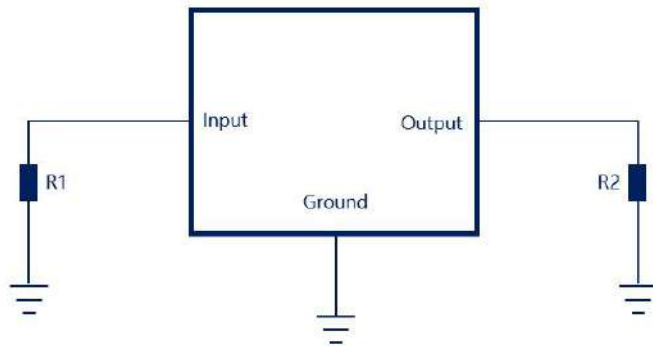


**Package & Dimensions**



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

**Matching**



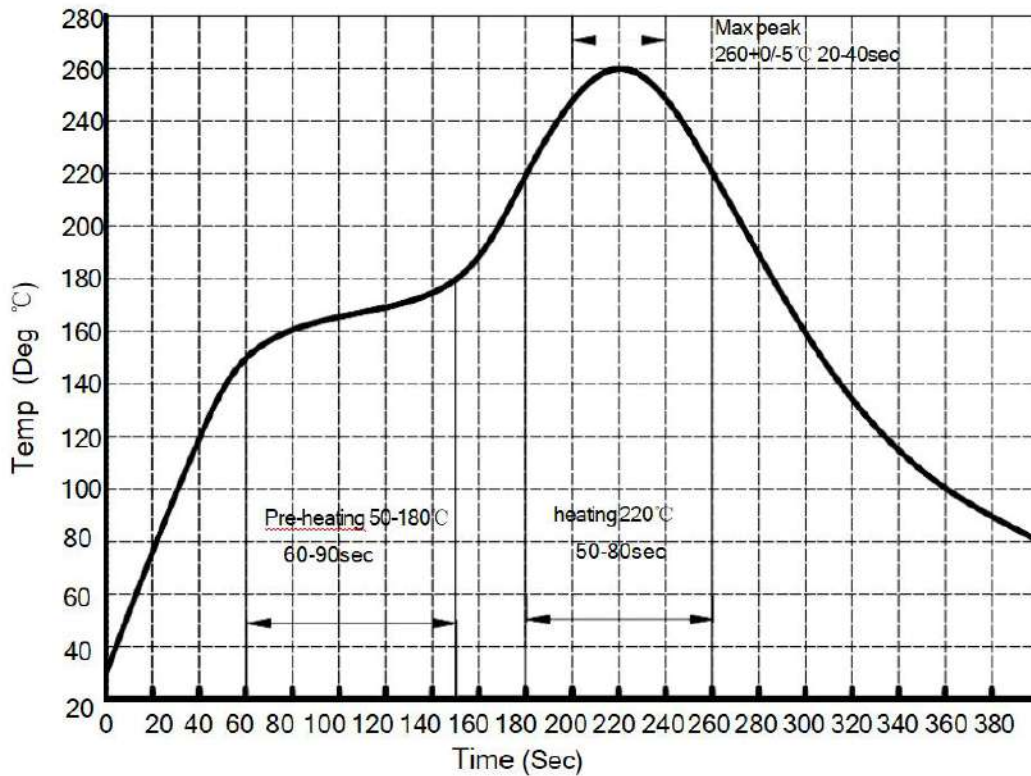
Port	Matching Component <sup>1</sup>
Input	R1: 50Ω
Output	R2: 50Ω

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

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

## Recommended Reflow Soldering Diagram



## Ordering Information

Part Number	Number of Devices	Container
SPT670M30E	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: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5
7	Resistance to Soldering Heat	(1) Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration: 10±1s (2) Temperature of Soldering Iron: 350°C±10°C, Duration: 3~4s, Recovery time : 2 ± 0.5h

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