

Data Sheet 512.5MHz SAW 3030 SPT512M30E

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:

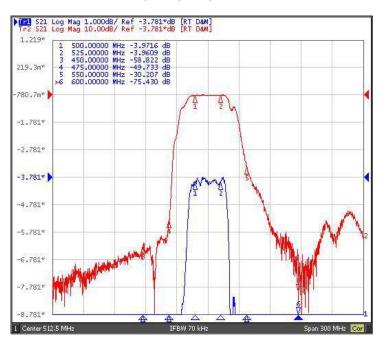
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 25.0 MHz

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

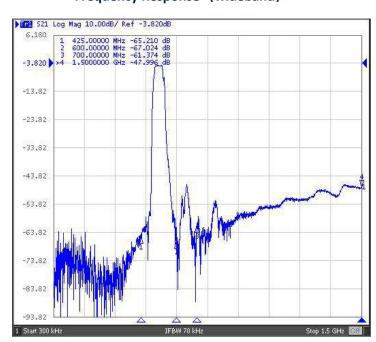
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		512.50		MHz
Insertion Loss(min)	IL		3.8	4.0	dB
Insertion Loss 500.00 - 525.00 MHz	IL		4.0	5.0	dB
Amplitude Ripple (p-p) 500.00 - 525.00 MHz	Δα		0.5	1.0	dB
Group Delay Ripple 500.00 - 525.00 MHz			15.0	35.0	ns
Absolute Attenuation	α				
DC- 425.00 MHz		45.0	50.0		dB
425.00 - 475.00 MHz		40.0	43.0		dB
550.00 - 600.00 MHz		20.0	25.0		dB
600.00 - 700.00 MHz		40.0	43.0		dB
700.00 - 1500.00 MHz		40.0	43.0		dB
Input VSWR 500.00 - 525.00 MHz			1.8:1	2.0:1	
Output VSWR 500.00 - 525.00 MHz			1.8:1	2.0:1	

Frequency Characteristics.

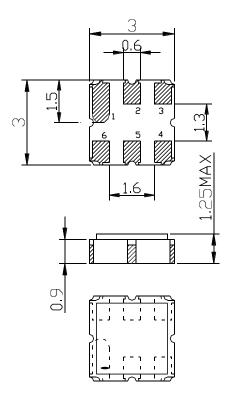
Frequency Response



Frequency Response (wideband)

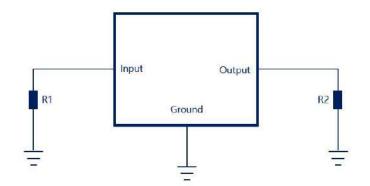


Package & Dimensions



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

Matching



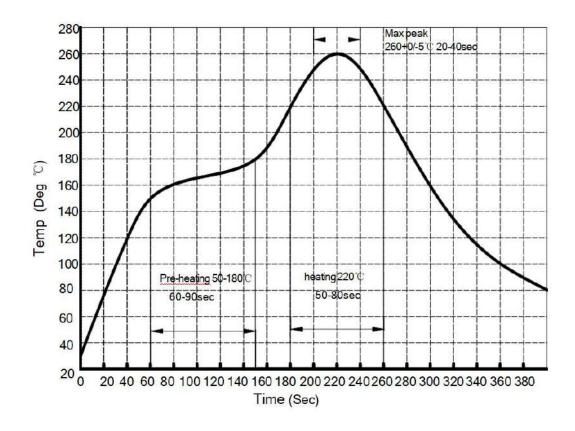
Port	Matching Component ¹	
Input	R1 : 50 Ω	
Output	R2 : 50 Ω	

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 _{stg}	-40 ~ +85	°C
RF Power Dissipation	Р	20	dBm

Recommended Reflow Soldering Diagram



Ordering Information

Part Number	Number of Devices	Container
SPT512M30E	1000pcs	Tape and Reel

Reliability

No.	Test item	Test condition	
1	Temperature Storage	Temperature: $85^{\circ}C\pm2^{\circ}C$, Duration: 250h, Recovery time: $2h\pm0.5h$ (2) Temperature: $-55^{\circ}C\pm3^{\circ}C$, Duration: 250h, Recovery time: $2h\pm0.5h$	
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	 (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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