

Data Sheet 1250MHz SAW 3030 SPT1250M3030A

V1.0

Description:

The Spectron SPT1250M3030A is a SAW filter designed for applications in RF module, IOT equipments and Information& Communications filed.

The SPT1250M3030A provides +20dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT1250M3030A exploit Spectron's exclusive TSAWtechnology to deliver competitive performance against state of the art at a low cost.

SPT1250M3030A is compatible with high volume, lead-free SMT soldering processes.

Features:

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

Specifications:

- Operation Temperature:-40°C to +85°C
- Usable passband 45MHz
- Compact miniature size
 - 3.0 mm × 3.0 mm footprint
 - 1.25mm max-height

Applications:

- RF module
- IOT equipments
- Information& Communications Devices

Electrical Specifications

 Table 1 Electrical Specifications.

Test Temperature: 25℃±2℃

Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		1250.00		MHz
Insertion Loss(min)	IL		1.4	3.0	dB
Amplitude Ripple (p-p)	$\triangle \mathfrak{a}$		0.8	1.0	dB
-1dB Bandwidth	BW1dB	45.0	47.3		MHz
-3dB Bandwidth	BW3dB		56.2	62.0	MHz
Shape Factor (BW _{40dB} /BW _{1dB})	/		1.9	2.5	/
Absolute Attenuation	a				
DC - 1150.00 MHz		35.0	45.0		dB
1350.00 – 1800.00 MHz		35.0	45.0		dB
1800.00 – 3000.00 MHz		30.0	38.0		dB
VSWR			1.8:1	2.0:1	/

Figure 1 Electrical Characteristics: Frequency response.

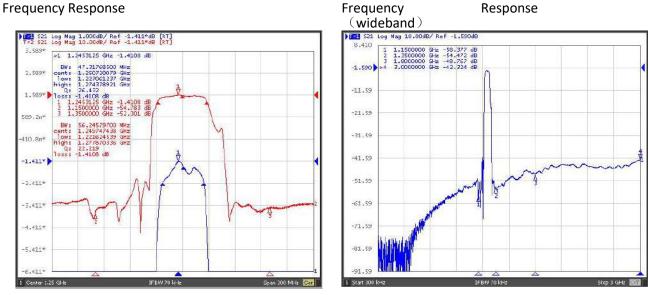
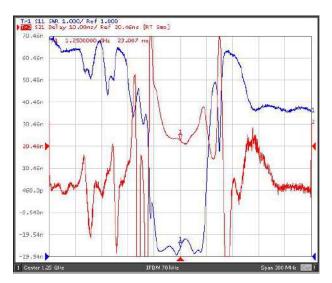
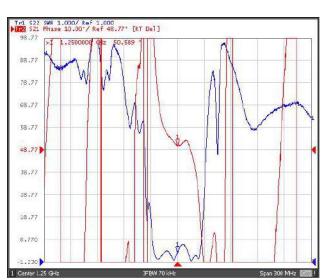


Figure 2 Electrical Characteristics: Delay Ripple & Phase Linearity& VSWR.

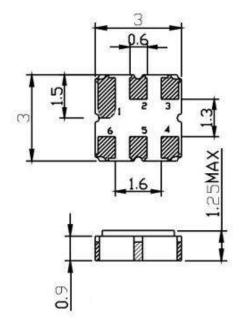


Delay Ripple & S11 VSWR



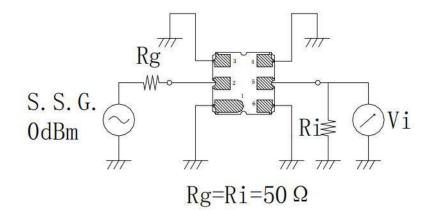
Phase Linearity &S22 VSWR

Package & Dimensions



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

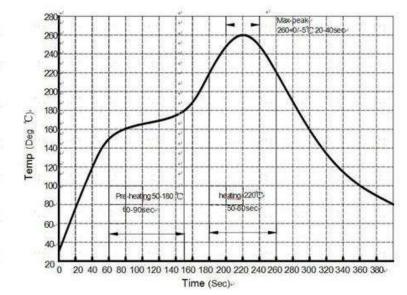
Test circuit



Maximum Ratings

Item		Value	Unit
DC Voltage	VDC	5	V
Operation Temperature	т	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	°C
RF Power Dissipation	Р	20	dBm

Recommended SMT Solder Profile



Ordering Information

Part Number	Number of Devices	Container	
SPT1250M3030A	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±0.5h (2) Temperature: $-55^{\circ}C\pm 3^{\circ}C$, 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: 10~55HzAmplitude:1.5mmDirections: X,Y and ZDuration: 2h		
5	Drop Test	Cycle time: 10 times Height: 1.0m		
6	Solder Ability Test	Temperature: 245°C±5°CDuration: 3.0s5.0sDepth: 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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