

Data Sheet 1615MHz SAW 3030 SPT1615M3030A

V1.0

Description:

The Spectron SPT1615M3030A is a SAW filter that work frequency ranges from 1605MHz to 1625MHz.It is designed for applications in GNSS,Beidou System, IOT equipments and Information& Communications filed.

The SPT1615M3030A provides +20 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT1615M3030A exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT1615M3030A is compatible with high volume, lead-free SMT soldering processes.

Features:

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

Specifications:

- Operation Temperature:-40°C to +85°C
- Usable passband 20.0 MHz
- Compact miniature size
 - 3.0 mm × 3.0 mm footprint
 - 1.25 mm max-height

Applications:

- GNSS
- IOT equipments
- Information& Communications Devices
- Short-message communicating

Electrical Specifications

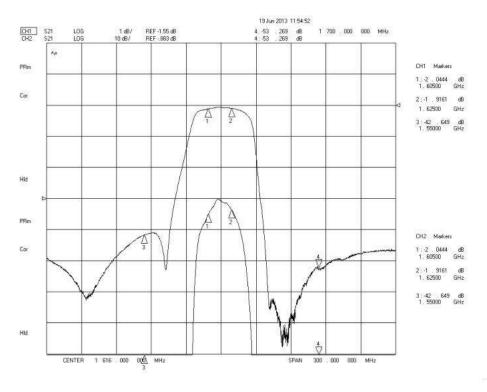
 Table 1 Electrical Specifications.

Test Temperature: 25°C±2°C

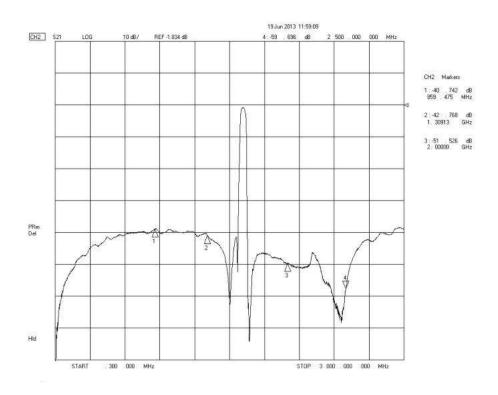
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		1615.00		MHz
Insertion Loss(min)	IL		1.6	2.0	dB
Insertion Loss 1605.00 - 1625.00MHz	IL		2.0	2.6	dB
Amplitude Ripple (p-p) 1605.00 - 1625.00MHz	Δa		0.5	1.0	dB
Group Delay Ripple 1605.00 - 1625.00MHz	GDR		10.0	30.0	ns
Absolute Attenuation	а				
DC - 1550.00 MHz		37.0	40.0		dB
1675.00 - 1700.00 MHz		45.0	50.0		dB
1700.00 - 2500.00 MHz		40.0	45.0		dB
2500.00 - 3000.00 MHz		35.0	38.0		dB
VSWR 1605.00 - 1625.00MHz			1.5:1	2.0:1	/

Figure 1 Electrical Characteristics: Frequency response.

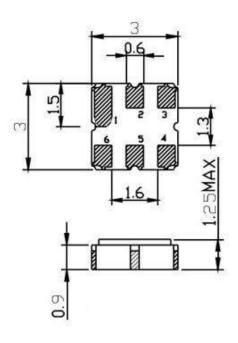
Frequency Response



Frequency Response (wideband)

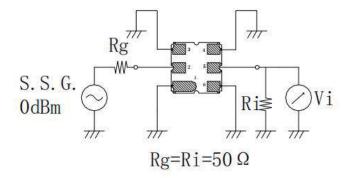


Package & Dimensions



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

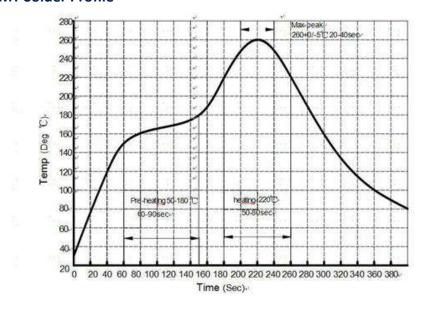
Test circuit



Maximum Ratings

Item		Value	Unit
Operation Temperature	Т	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ 125	°C
RF Power Dissipation	Р	20	dBm

Recommended SMT Solder Profile



Ordering Information

Part Number	Number of Devices	Container
SPT1615M3030A	1000pcs	Tape and Reel

Reliability

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