



Data Sheet
1590MHz SAW 3030
SPT1590M3030A

V1.0

Description:

The Spectron SPT1590M3030A is a SAW filter that work frequency ranges from 1570MHz to 1610MHz. It is designed for applications in wireless module and Information & Communications filed.

The SPT1590M3030A provides +20 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT1590M3030A exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT1590M3030A 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 40.0 MHz
- Compact miniature size
 - 3.0 mm \times 3.0 mm footprint
 - 1.25 mm max-height

Applications:

- Information & Communications Devices
- Wireless module

Electrical Specifications

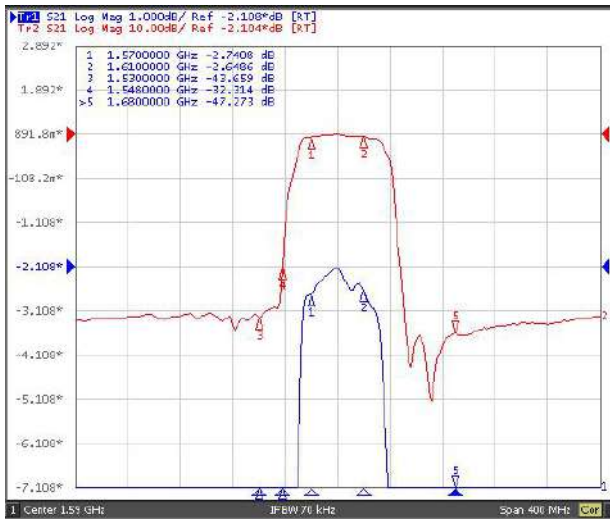
Table 1 Electrical Specifications.

Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		1590.00		MHz
Insertion Loss(min)	IL		2.1	2.5	dB
Insertion Loss	IL		2.8	3.5	dB
Amplitude Ripple (p-p)	Δa		0.8	1.0*	dB
1 dB Bandwidth	BW _{1dB}	54.0	57.0		MHz
Group Delay Ripple	GDR		10.0	30.0	ns
Absolute Attenuation	a				
	DC - 1000.00MHz	40.0	45.0		dB
	1000.00 - 1530.00MHz	38.0	42.0		dB
	1548.00MHz		30.0		dB
	1680.00- 2000.00MHz	35.0	40.0		dB
	2000.00- 3500.00MHz	30.0	37.0		dB
	3500.00- 5000.00MHz	15.0	25.0		dB
Input VSWR			1.5:1	2.0:1	/
Output VSWR			1.5:1	2.0:1	/

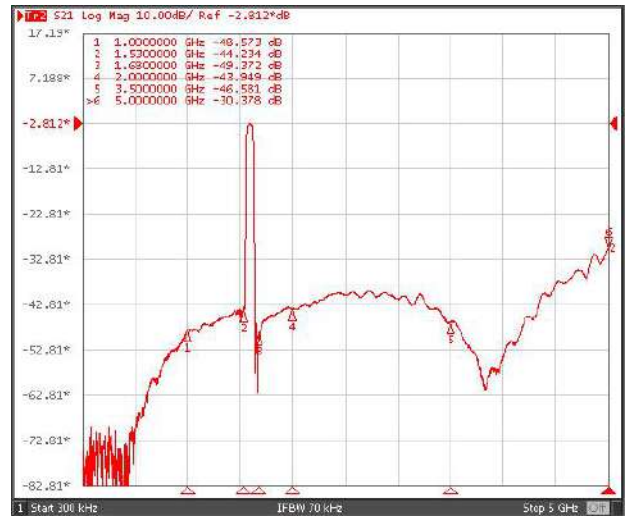
1. Min/Max specifications are guaranteed at the indicated temperature (unless otherwise noted).
2. Typical data is the average value (arithmetic mean) of the parameter over the indicated band at +25°C

Figure 1 Electrical Characteristics: Frequency response.

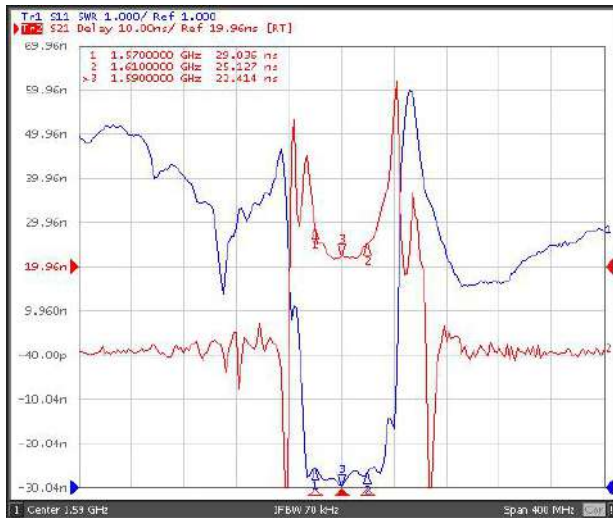
Frequency Response



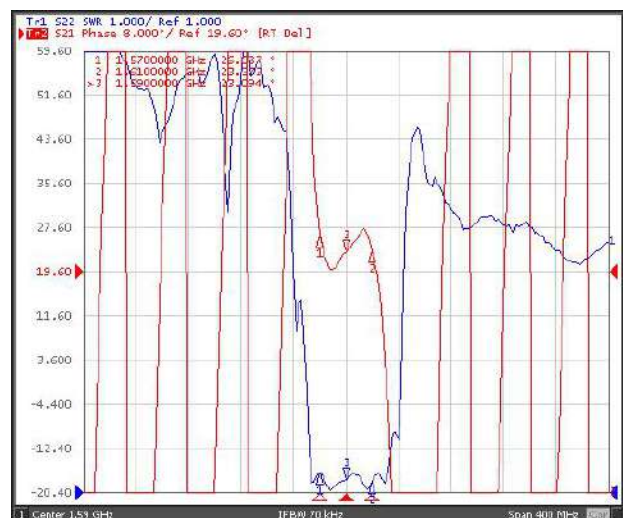
Frequency Response (wideband)



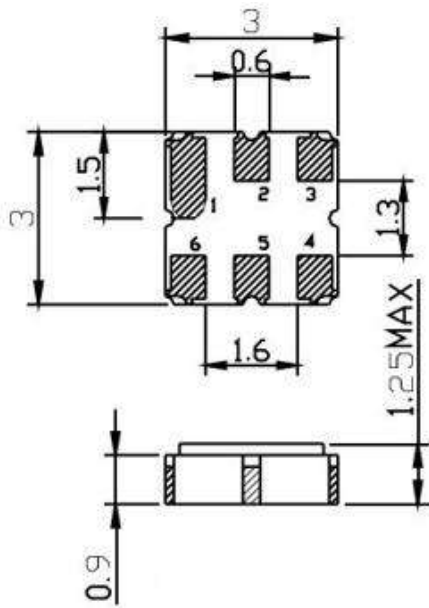
Delay Ripple & S11 VSWR



Phase Linearity & S22 VSWR

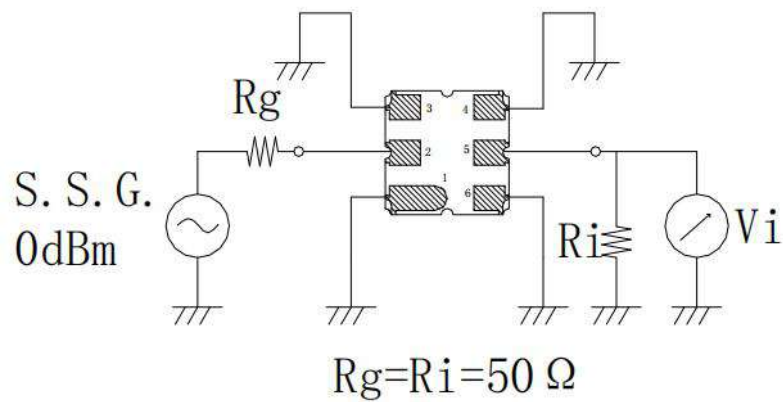


Package & Dimensions



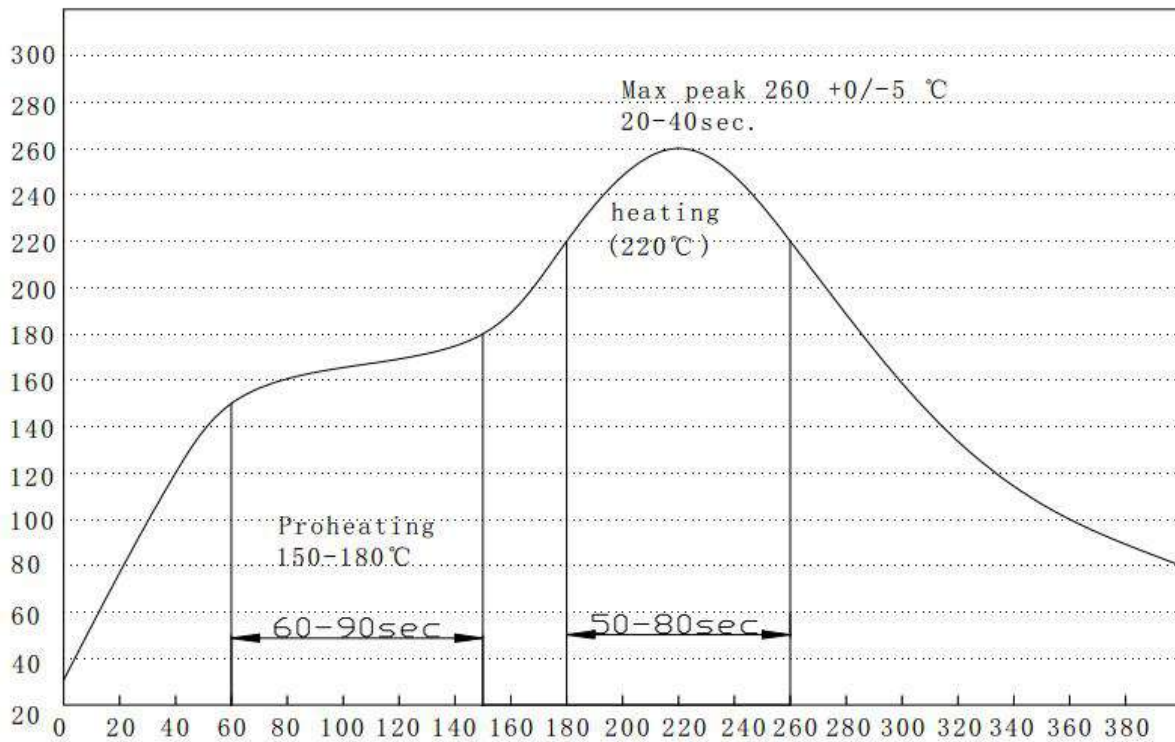
Pin No.	Description
2	Input
5	Output
1,3,4,6	Ground

Test circuit



Maximum Ratings

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

Recommended SMT Solder Profile**Ordering Information**

Part Number	Number of Devices	Container
SPT1590M3030A	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 Directions: X,Y and Z Amplitude:1.5mm 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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