Spectron® Technologies

Data Sheet
1191.5MHz SAW 3030
SPT1191M3030A

V1.0

Description:

The Spectron SPT1191M3030A is a SAW filter that designed for applications in Beidou system,IOT equipments and Information& Communications filed.

The SPT1191M3030A provides +20 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT1191M3030A exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT1191M3030A 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 51.0 MHz
- Compact miniature size
  - 3.0 mm × 3.0 mm footprint
  - 1.25 mm max-height

Applications:

- IOT equipments
- Information& Communications Devices
- Beidou System

Electrical Specifications

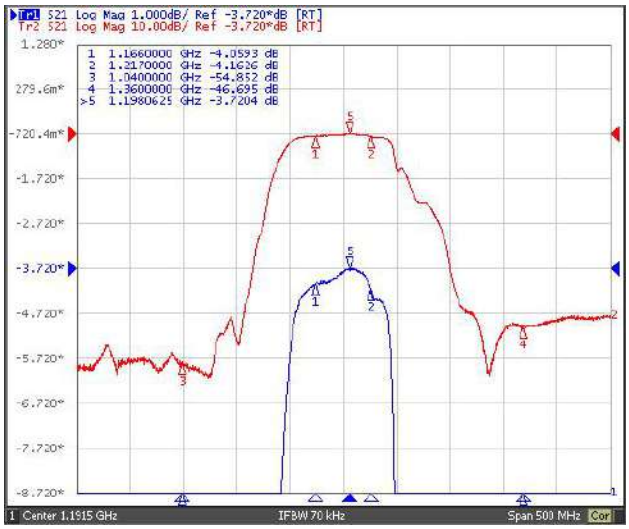
Table 1 Electrical Specifications.

Test Temperature: 25℃±2℃

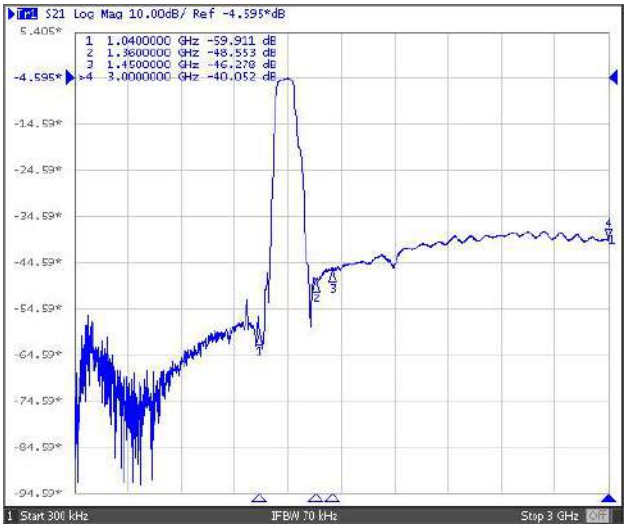
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		1191.5		MHz
Insertion Loss(min)	IL		3.8	5.0	dB
Amplitude Ripple (p-p) 1166.00 - 1217.00MHz	△α		0.8	1.0	dB
Group Delay Ripple 1166.00 - 1217.00MHz	GDR		5.0	20.0	ns
Absolute Attenuation	α				
DC - 1040.00 MHz		40.0	45.0		dB
1360.00 - 1450.00 MHz		40.0	42.0		dB
1450.00 - 3000.00 MHz		30.0	32.0		dB
Input VSWR 1166.00 - 1217.00MHz			1.5:1	2.0:1	/
Output VSWR 1166.00 - 1217.00MHz			1.5:1	2.0:1	/

Figure 1 Electrical Characteristics:

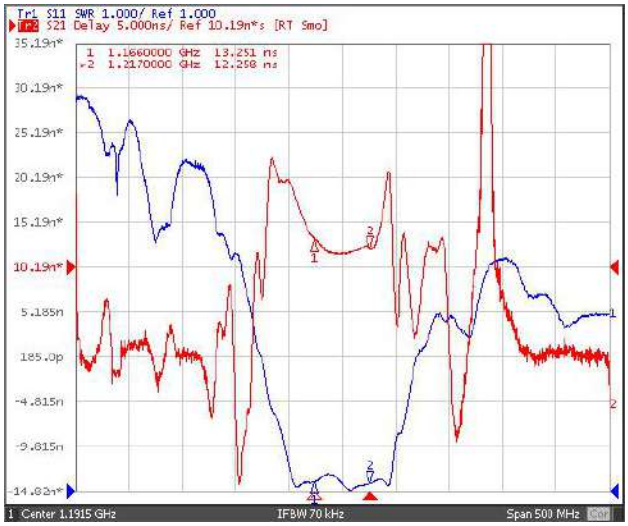
Frequency Response



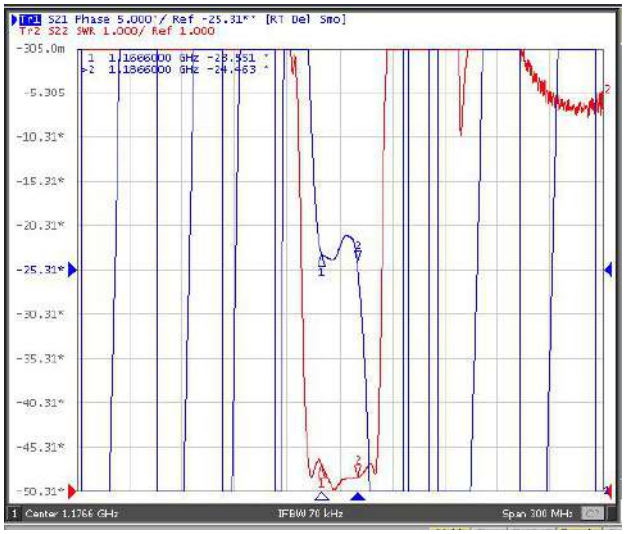
Frequency Response（wide band）



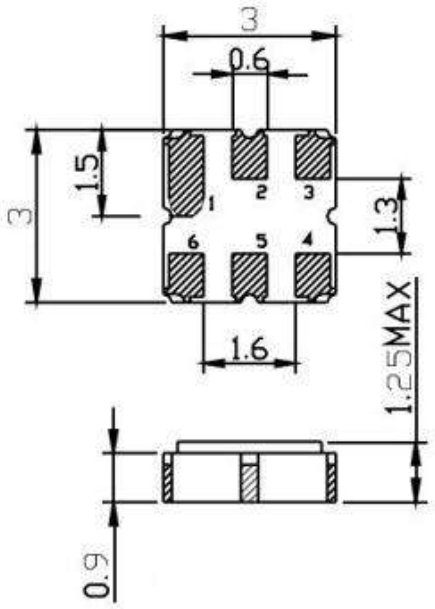
Delay Ripple & S11 VSWR



Phase Linearity & S22 VSWR

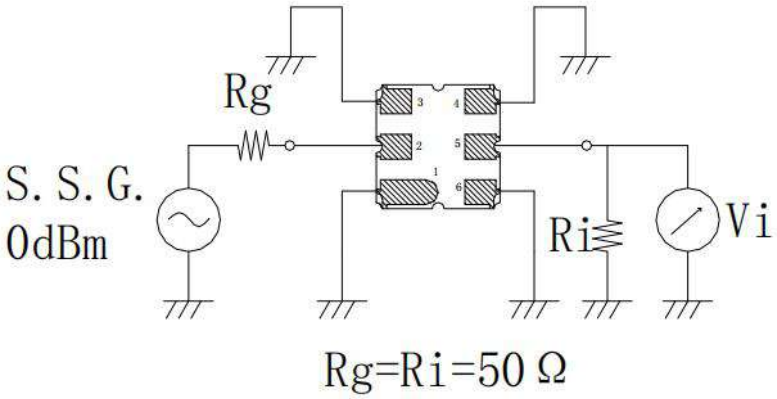


Package & Dimensions



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

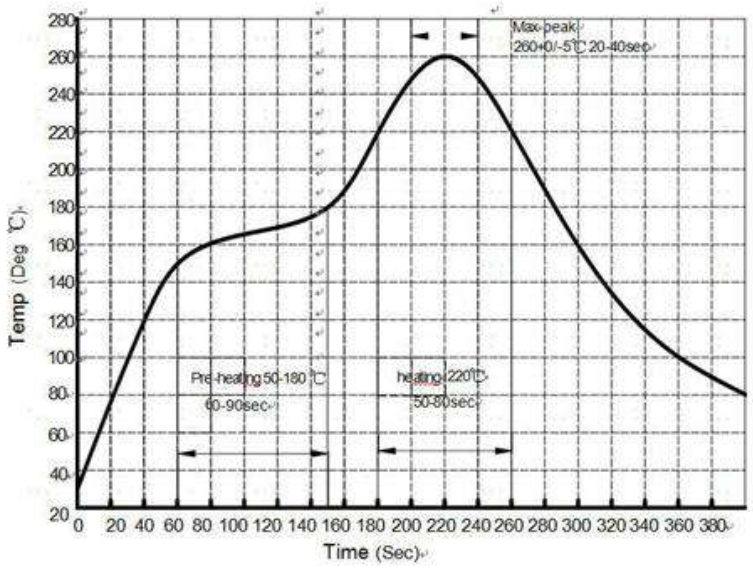
Test circuit



Maximum Ratings

Item		Value	Unit
Operation Temperature	T	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +125	℃
RF Power Dissipation	P	20	dBm

Recommended SMT Solder Profile



Ordering Information

Part Number	Number of Devices	Container
SPT1191M3030A	1000pcs	Tape and Reel

Reliability

No.	Test item	Test condition
1	Temperature Storage	Temperature: 85℃±2℃ , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: –55℃±3℃ , Duration: 250h ,Recovery time: 2h±0.5h
2	Humidity Test	Conditions: 60℃±2℃ ,90~95% RH Duration: 250h
3	Thermal Shock	Heat cycle conditions: TA=-55℃±3℃, TB=85℃±2℃, 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℃±5℃ 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℃±5℃ , Duration: 10±1s (2) Temperature of Soldering Iron: 350℃±10℃, Duration: 3~4s, Recovery time : 2 ± 0.5h