

Data Sheet 1588MHz SAW 3030 SPT1588M3030A

V1.0

Description:

The Spectron SPT1588M3030A is a SAW filter that work frequency ranges from 1560 to 1616MHz.It is designed for applications in GNSS, IOT equipments and Information& Communications filed.

The SPT1588M3030A provides +20 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT1588M3030A exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT1588M3030A 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 56.0 MHz
- Compact miniature size
 - $-3.0 \text{ mm} \times 3.0 \text{ mm footprint}$
 - 1.25 mm max-height

Applications:

- GNSS
- IOT equipments
- Information& Communications Devices

Electrical Specifications

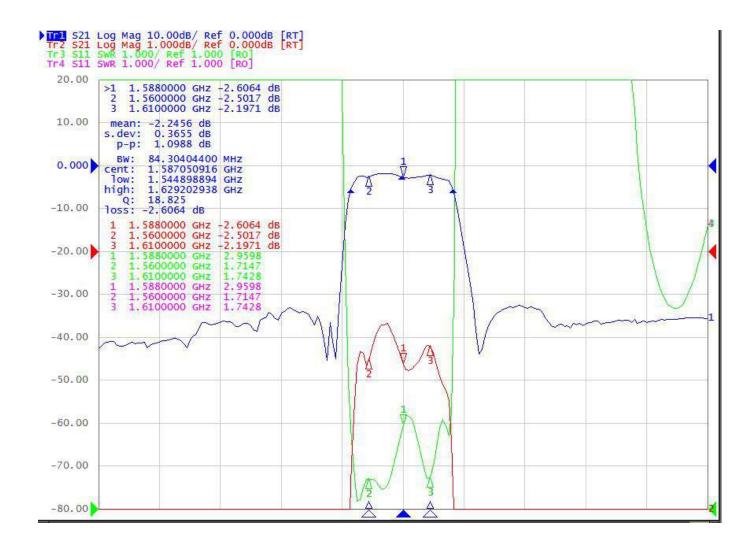
 Table 1 Electrical Specifications.

| Item | | Minimum | Typical | Maximum | Unit |
|--|----|---------|---------|---------|------|
| Center Frequency | fc | | 1588.00 | | MHz |
| Insertion Loss((1560~1616 MHz) | IL | | 2.6 | 3.5 | dB |
| Amplitude Ripple (p-p) (1560~1616MHz) | Δα | | 0.8 | 2.0 | dB |
| Attenuation | а | | | | |
| 100~1400 MHz | | 38.0 | 45.0 | | dB |
| 1400~1525 MHz | | 25.0 | 35.0 | | dB |
| 1645~1650 MHZ | | 8.0 | 25.0 | | dB |
| 1650~1840 MHz | | 25.0 | 30.0 | | dB |
| 1840~2000 MHz | | 33.0 | 38.0 | | dB |
| 2000~2500 MHz | | 30.0 | - | | |
| VSWR | | | | | |
| 1560~1616 MHz | | | 2.0 | 2.5 | dB |
| | | | | | |

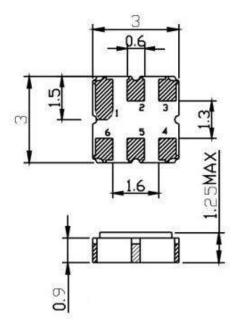
^{1.} Min/Max specifications are guaranteed at the indicated temperature (unless otherwise noted).

^{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.

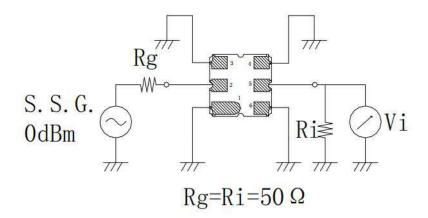


Package & Dimensions



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

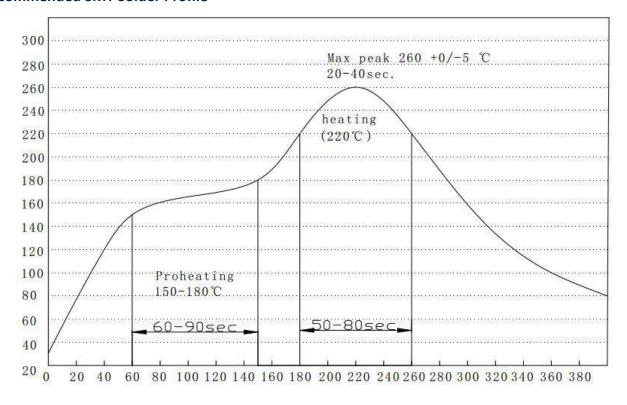
Test circuit



Maximum Ratings

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

Recommended SMT Solder Profile



Ordering Information

| Part Number | Number of Devices | Container |
|---------------|-------------------|---------------|
| SPT1588M3030A | 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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