



**Data Sheet**  
**860MHz SAW 3030**  
**SPT860M30E**

V1.0

**Features:**

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 3.00x3.00x1.25mm<sup>3</sup>
- Electrostatic Sensitive Device(ESD)

**Specifications:**

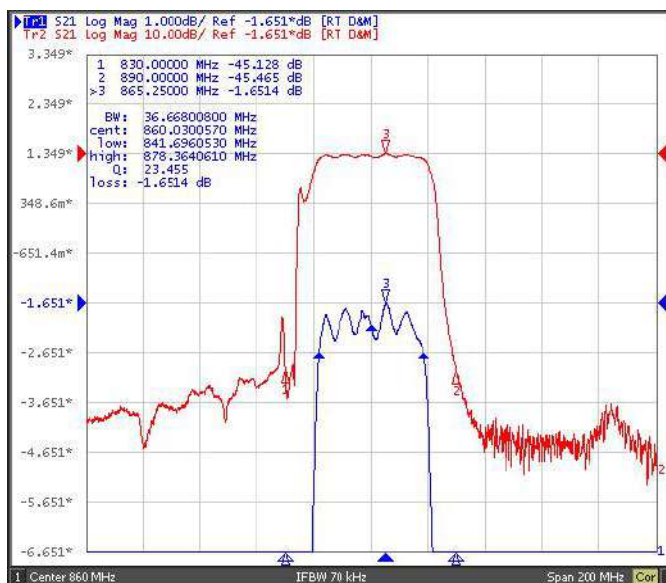
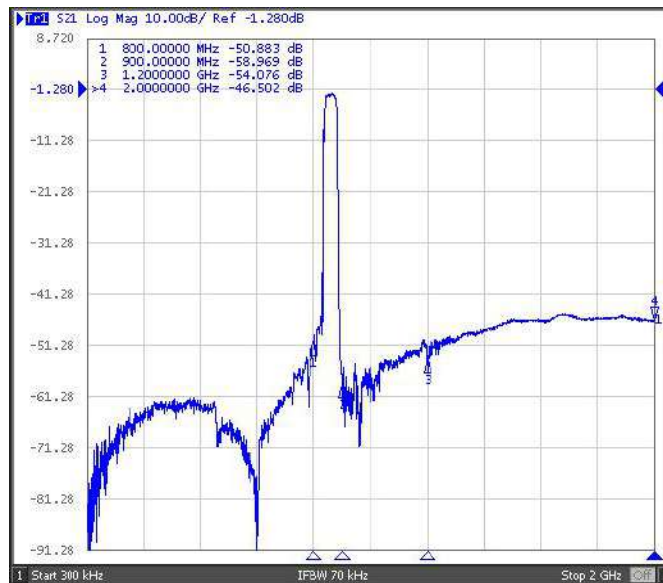
- Operation Temperature:-40°C to +85°C
- Compact miniature size
  - 3.0 mm × 3.0 mm footprint
  - 1.25 mm max-height

**Applications:**

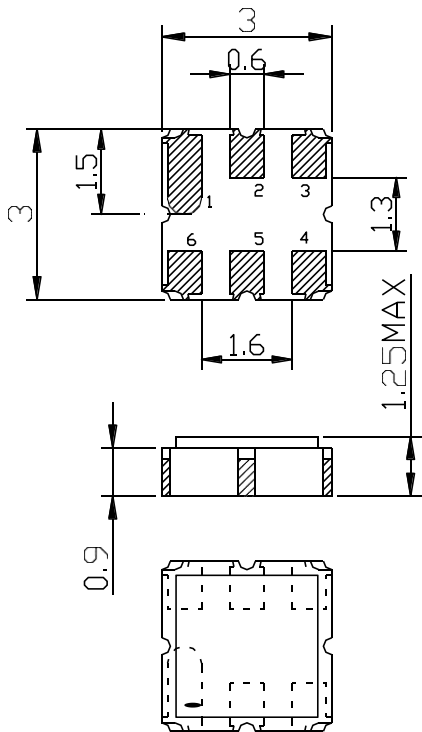
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 24.0 MHz

**Electrical Specifications.** Test Temperature: 25°C±2°C

| Item                   |                   | Minimum | Typical | Maximum | Unit |
|------------------------|-------------------|---------|---------|---------|------|
| Center Frequency       | fc                |         | 860.00  |         | MHz  |
| Insertion Loss(min)    | IL                |         | 1.7     | 2.5     | dB   |
| Amplitude Ripple (p-p) | $\Delta\alpha$    |         | 0.8     | 1.0     | dB   |
| 1dB Bandwidth          | BW <sub>1dB</sub> | 30.0    | 36.0    |         | MHz  |
| Group Delay Ripple     | GDR               |         | 25.0    | 80.0    | ns   |
| 848.00 - 872.00 MHz    |                   |         |         |         |      |
| Absolute Attenuation   | $\alpha$          |         |         |         |      |
| DC - 800.00 MHz        |                   | 40.0    | 45.0    |         | dB   |
| *830.00 MHz            |                   | 40.0    | 42.0    |         | dB   |
| *890.00 MHz            |                   | 40.0    | 42.0    |         | dB   |
| 900.00 – 1200.00MHz    |                   | 40.0    | 45.0    |         | dB   |
| 1200.00 – 2000.00MHz   |                   | 35.0    | 40.0    |         | dB   |
| Input VSWR             |                   |         | 1.8:1   | 2.0:1   | /    |
| 848.00 - 872.00 MHz    |                   |         |         |         |      |
| Output VSWR            |                   |         | 1.8:1   | 2.0:1   | /    |
| 848.00 - 872.00 MHz    |                   |         |         |         |      |

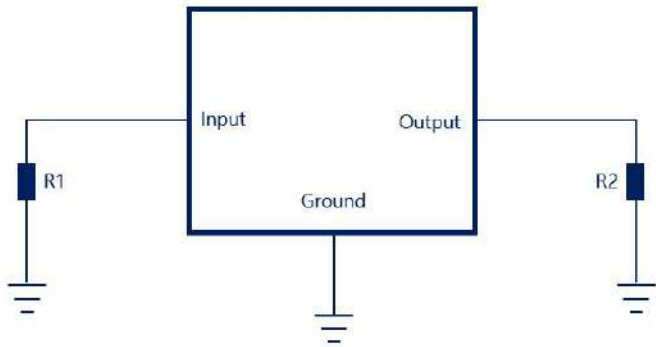
**Frequency Characteristics.****Frequency Response****Frequency Response (wideband)**

Package & Dimensions



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

Matching



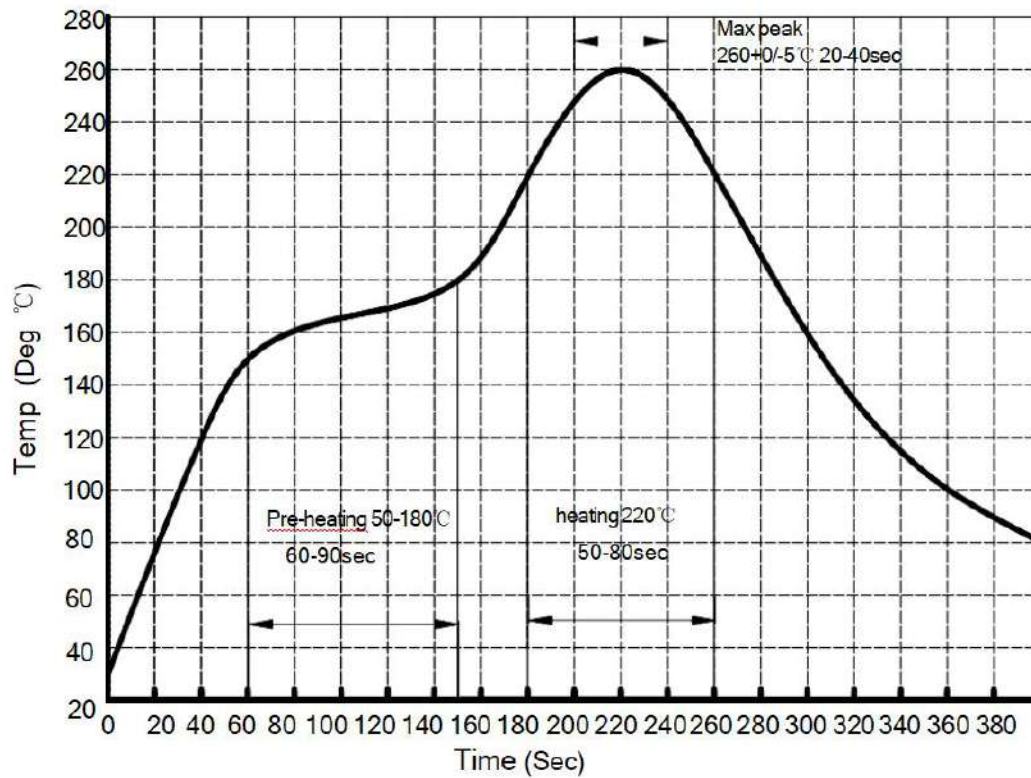
| Port   | Matching Component <sup>1</sup> |
|--------|---------------------------------|
| Input  | R1: 50Ω                         |
| Output | R2: 50Ω                         |

Matching component values shown are recommended based on the Spectron evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

## Maximum Ratings

| Item                  |                  | Value     | Unit |
|-----------------------|------------------|-----------|------|
| DC Voltage            | V <sub>DC</sub>  | 5         | V    |
| Operation Temperature | T                | -40 ~ +85 | °C   |
| Storage Temperature   | T <sub>stg</sub> | -40 ~ +85 | °C   |
| RF Power Dissipation  | P                | 20        | dBm  |

## Recommended Reflow Soldering Diagram



## Ordering Information

| Part Number | Number of Devices | Container     |
|-------------|-------------------|---------------|
| SPT860M30E  | 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<br>(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:<br>≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.                                       |
| 4   | Vibration Fatigue            | Frequency of vibration: 10~55Hz                                  Amplitude:1.5mm<br>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: 3.0s--5.0s<br>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<br>(2) Temperature of Soldering Iron: 350°C±10°C, Duration: 3~4s,<br><br>Recovery time : 2 ± 0.5h |

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