Spectron® Technologies

Data Sheet
387.5MHz SAW 3838
SPT387M38E

V1.0

Features:

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 3.80x3.80x1.50mm^3
- Electrostatic Sensitive Device(ESD)

Specifications:

- Operation Temperature:-40°C to +85°C
- Compact miniature size
  - 3.8 mm × 3.8 mm footprint
  - 1.50 mm max-height

Applications:

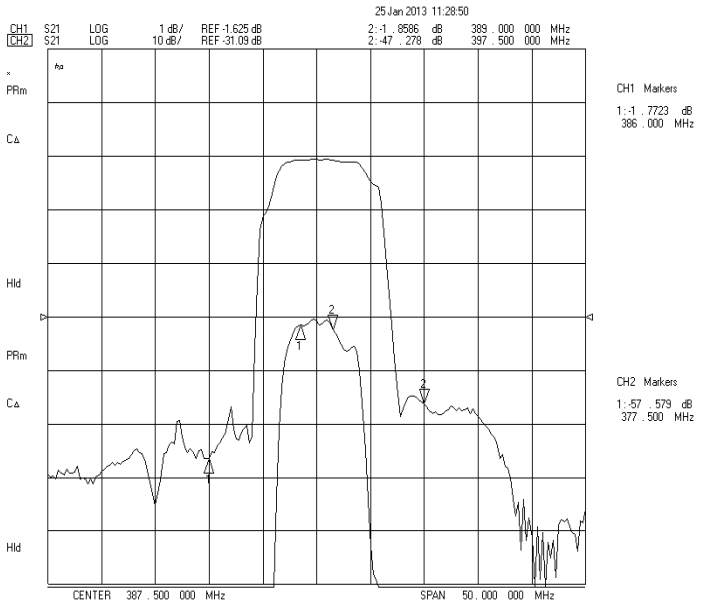
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 3 MHz

Electrical Specifications. Test Temperature: 25℃±2℃

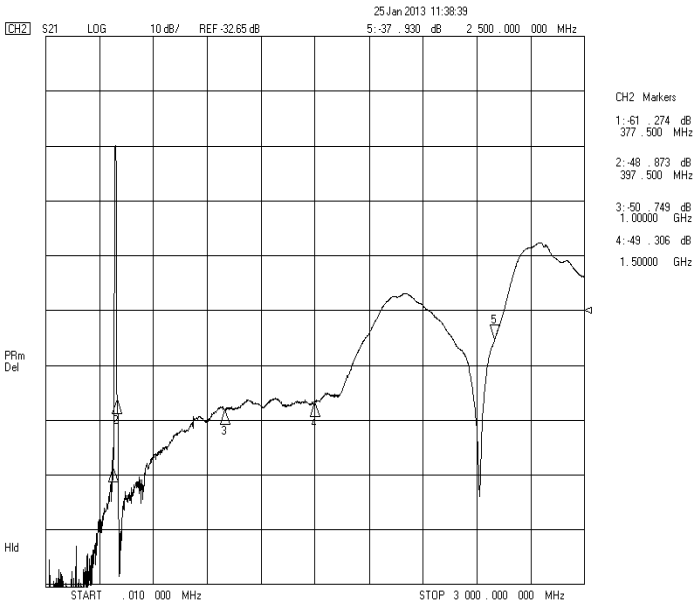
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		387.50		MHz
Insertion Loss(min)	IL		1.7	2.0	dB
Insertion Loss 386.00 - 389.00 MHz	IL		2.0	3.0	dB
Amplitude Ripple (p-p) 386.00 - 389.00 MHz	△α		0.5	0.8	dB
Group Delay Ripple 386.00 - 389.00 MHz	GDR		20.0	40.0	ns
Absolute Attenuation	α				
DC - 378.00 MHz		40.0	45.0		dB
397.00 - 1000.00MHz		40.0	45.0		dB
1000.00 - 1500.00 MHz		40.0	45.0		dB
Input VSWR 386.00 - 389.00 MHz			1.8:1	2.0:1	/
Output VSWR 386.00 - 389.00 MHz			1.8:1	2.0:1	/

Frequency Characteristics.

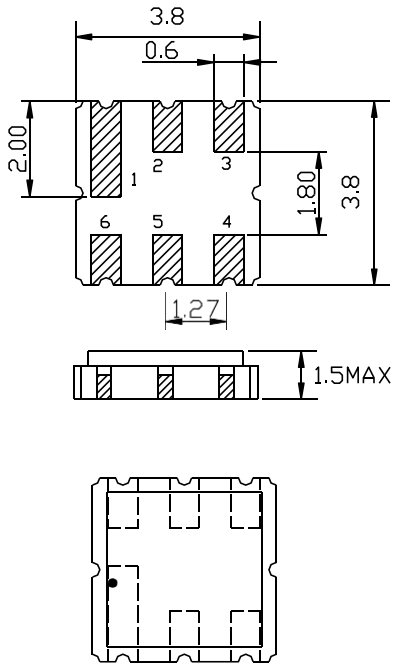
Frequency Response



Frequency Response （wideband）

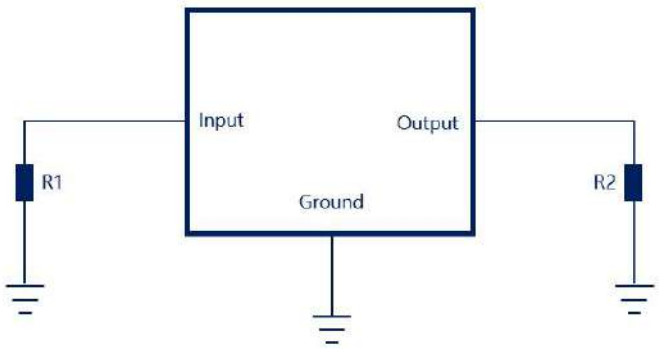


Package & Dimensions



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

Matching



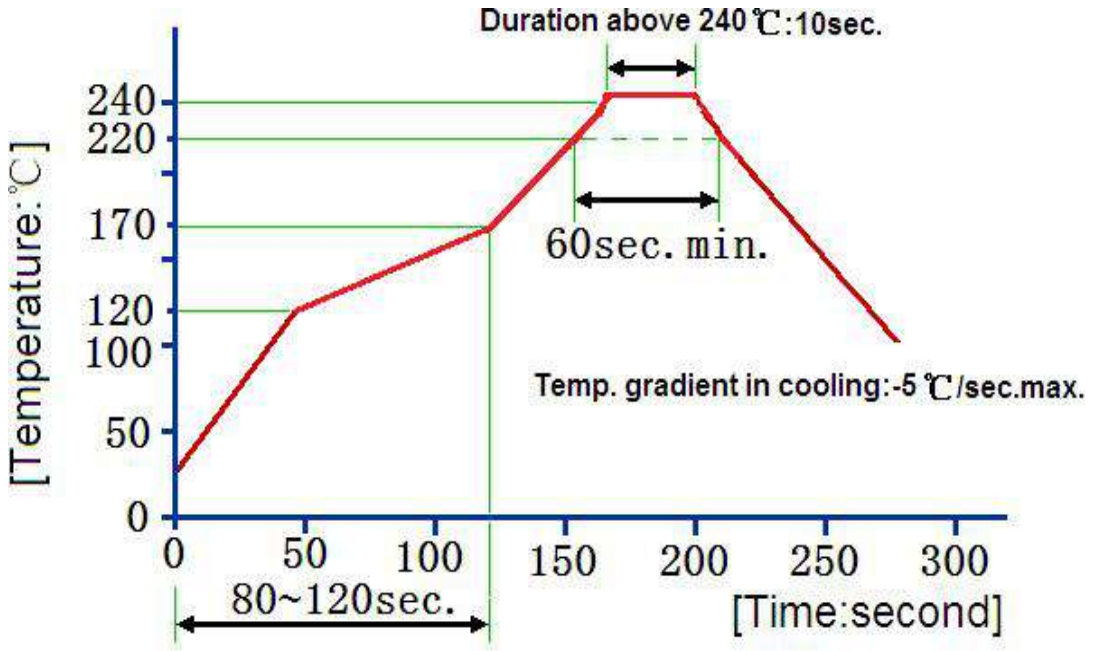
Port	Matching Component[1]
Input	R1: 50Ω
Output	R2: 50Ω

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_{DC}	3	V
Operation Temperature	T	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +85	℃
RF Power Dissipation	P	10	dBm

Recommended Reflow Soldering Diagram



Reflow cycles:3 cycles max.

Ordering Information

Part Number	Number of Devices	Container
SPT387M38E	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