



Data Sheet
540MHz SAW 3838
SPT540M38E

V1.0

Features:

- Ceramic Package for Surface Mounted Technology (SMT)
- RoHS compatible
- Package size 3.80x3.80x1.50mm³
- 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:

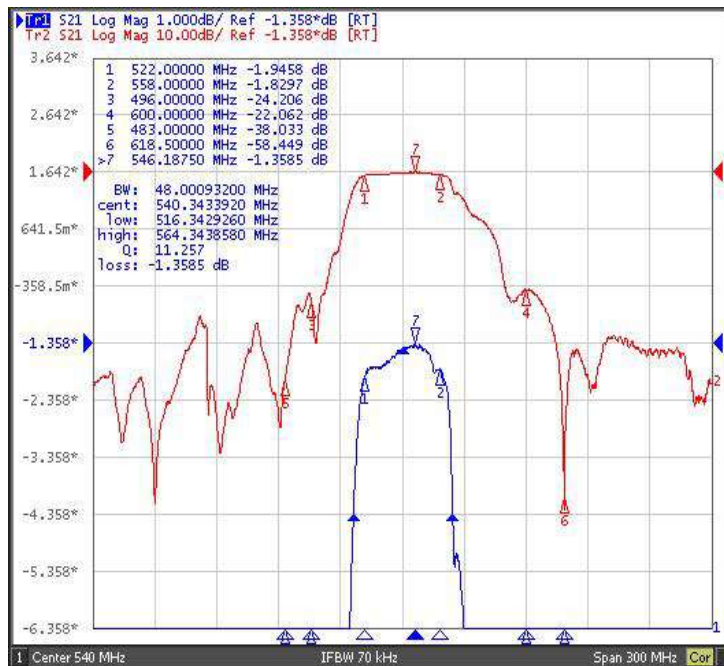
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 36.0 MHz

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

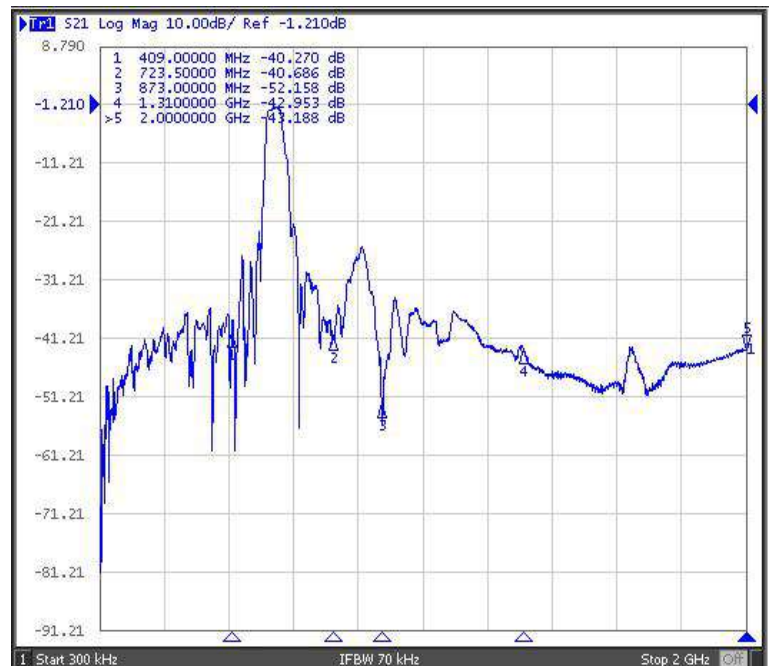
Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		540.00		MHz
Insertion Loss(min)	IL		1.6	2.5	dB
Insertion Loss 522.00 - 558.00 MHz	IL		2.5	3.0	dB
1dB Bandwidth	BW _{1dB}	40.0	41.5		MHz
3 dB Bandwidth	BW _{3dB}		47.0		MHz
Amplitude Ripple (p-p) 522.00 - 558.00 MHz	$\Delta\alpha$		0.8	1.2	dB
Group Delay Ripple 522.00 - 558.00 MHz	GDR		15.0	35.0	ns
Absolute Attenuation	α				
DC - 409.00 MHz		28.0	32.0		dB
409.00 - 483.00 MHz		20.0	25.0		dB
496.00 MHz		20.0	22.0		dB
600.00 MHz		20.0	22.0		dB
618.50 - 723.50 MHz		25.0	30.0		dB
723.50 - 873.00 MHz		18.0	22.0		dB
873.00 - 1310.00 MHz		25.0	30.0		dB
1310.00 - 2000.00 MHz		25.0	30.0		dB
Input VSWR 522.00 - 558.00 MHz			1.8:1	2.0:1	/
Output VSWR 522.00 - 558.00 MHz			1.8:1	2.0:1	/

Frequency Characteristics.

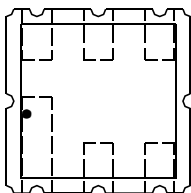
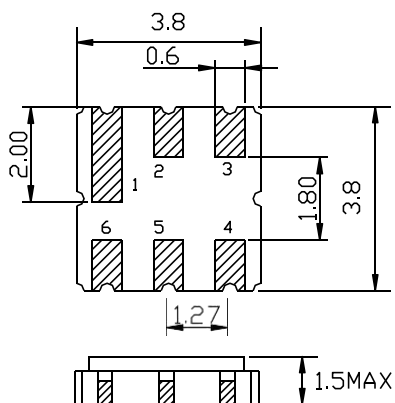
Frequency Response



Frequency Response (wideband)

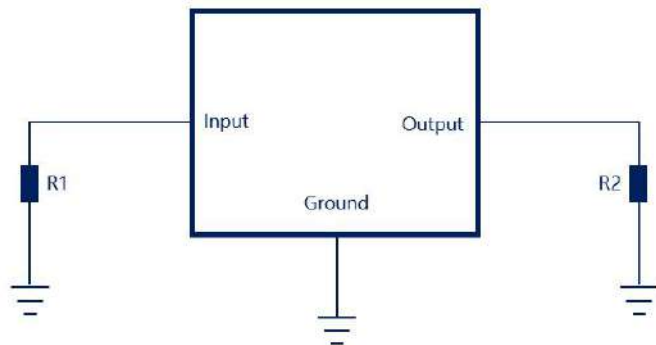


Package & Dimensions



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

Matching



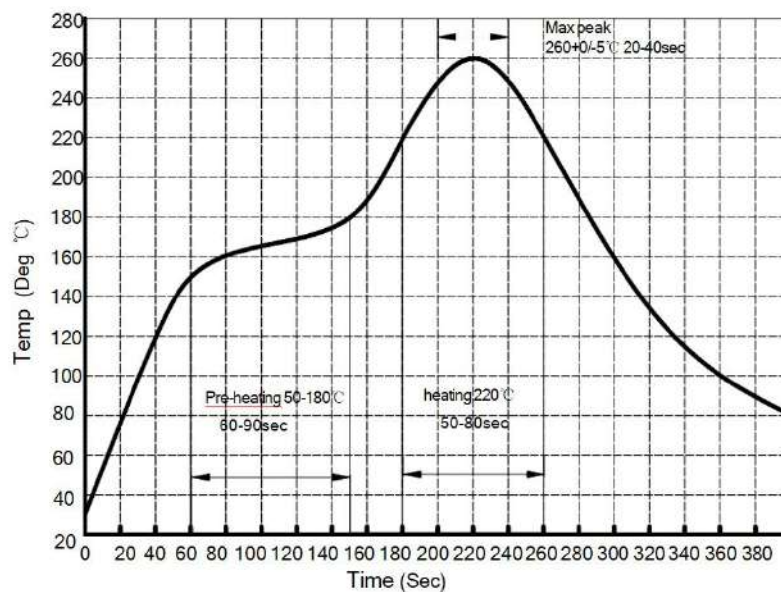
Port	Matching Component ¹
Input	R1: 50Ω
Output	R2: 50Ω

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	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C
RF Power Dissipation	P	10	dBm

Recommended Reflow Soldering Diagram



Ordering Information

Part Number	Number of Devices	Container
SPT540M38E	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 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: 3.0s--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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