

Data Sheet 433.92MHz SAW 5050 SPT434M5050A

V1.0

Description:

The Spectron SPT434M5050A is a SAW filter that work frequency ranges from 430.92 to 436.92MHz.It is designed for applications in remote control, wireless module and Information& Communications filed.

The SPT434M5050A provides +20 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT434M5050A exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT434M5050A is compatible with high volume, lead-free SMT soldering processes.

Features:

- Single-Ended Input and Output
- Terminating Impedance: 50 Ω
- RoHS Compliant
- Package size 5.00x5.00x1.50mm3

Specifications:

- Operation Temperature:-40°C to +85°C
- Low-loss SAW component
- Low amplitude ripple
- Sharp rejections at both out-bands
- Usable passband 6 MHz

Applications:

- Information& Communications Devices
- Remote control
- Wireless module

Electrical Specifications

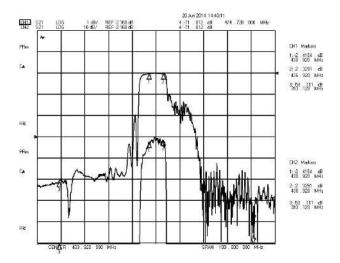
 Table 1 Electrical Specifications.

Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc		433.92		MHz
Insertion Loss(min)	IL		2.2	3.0	dB
Insertion Loss 430.92 – 436.92 MHz	IL		2.5	3.5	dB
Amplitude Ripple (p-p) 430.92 – 436.92 MHz	Δa		0.5	1.5	dB
Group Delay Ripple 430.92 – 436.92 MHz	GDR		40.0	80.0	ns
Absolute Attenuation	а				
DC – 333.92 MHz		40.0	45.0		dB
333.92 - 393.12 MHz		40.0	45.0		dB
474.72 - 533.92 MHz		45.0	50.0		dB
533.92 - 1000.00 MHz		45.0	50.0		dB
1000.00 - 1500.00 MHz		30.0	35.0		dB
1500.00 - 2000.00 MHz		20.0	25.0		dB
Input VSWR 430.92 – 436.92 MHz			1.5:1	2.0:1	1
Output VSWR 430.92 – 436.92 MHz			1.5:1	2.0:1	/

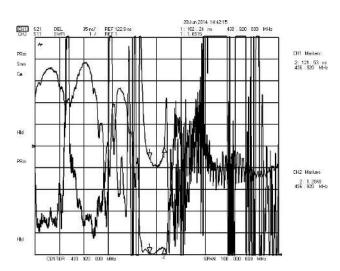
- 1. Min/Max specifications are guaranteed at the indicated temperature (unless otherwise noted).
- 2. Typical data is the average value (arithmetic mean) of the parameter over the indicated band at +25°C

Figure 1 Electrical Characteristics: Frequency response.

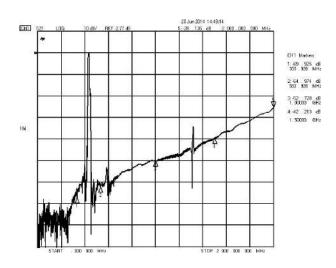
Frequency Response



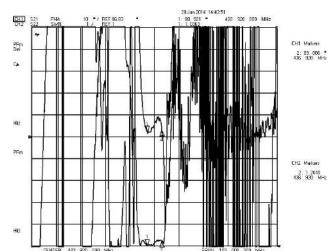
Delay Ripple & S11 VSWR



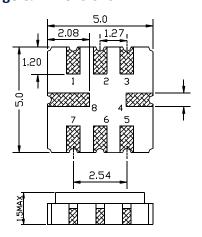
Frequency Response (wideband)



Phase Linearity & S22 VSWR

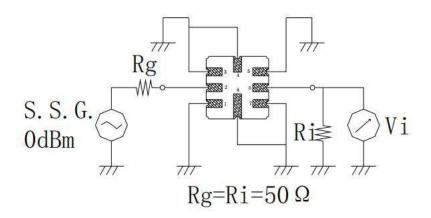


Package & Dimensions



Pin No.	Description	
2	Input	
6	Output	
1,3,4,5,7,8	Ground	

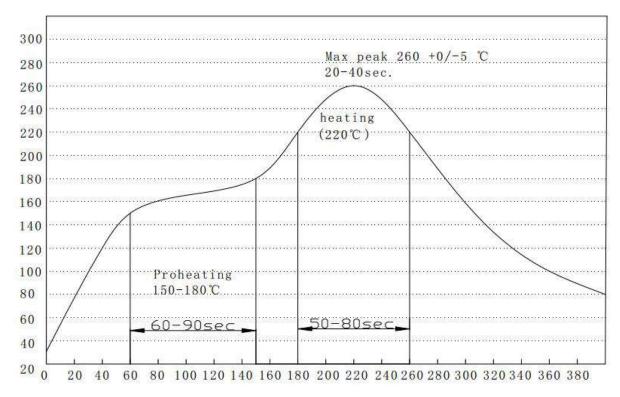
Test circuit



Maximum Ratings

ltem		Value	Unit
Operation Temperature	Т	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +125	°C
RF Power Dissipation	Р	20	dBm

Recommended SMT Solder Profile



Ordering Information

Part Number	Number of Devices	Container
SPT434M5050A	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: $20^{\circ}\text{C}\pm0.5$ h (2) Temperature: $-55^{\circ}\text{C}\pm3^{\circ}\text{C}$, Duration: 250h, Recovery time: $20^{\circ}\text{C}\pm0.5$ h		
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 		

Spectron Technologies, Spectron Microsystems, and the spectrum logo are among the trademarks of Spectron and/or its affiliates in the People's Republic of China, certain other countries, and/or the EU.

Copyright © 2022 Spectron. All Rights Reserved.

The term "Spectron" refers to Specton (Shenzhen) Technologies Co. Ltd and its subsidiaries.

Information furnished by Spectron is believed to be accurate and reliable. Spectron reserves the right to make changes without further notice to any products or data herein to improve reliability, function, or design. However, Spectron does not assume any liability arising from the application or use of this information, nor the application or use of any product or circuit described herein. Neither does Spectron convey any license under its patent rights nor the rights of others.

