Data Sheet
915MHz SAW 1411
SPT915M1411B

2022/11/6
V1.0

Description:

The Spectron SPT915M1411B is a SAW filter that work frequency ranges from 902 to 928MHz.It is designed for applications in remote controls, IOT equipments and Information& Communications filed.

The SPT915M1411B provides +10 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT915M1411B exploit Spectron's exclusive TSAWtechnology to deliver competitive performance against state of the art at a low cost.

The SPT915M1411B is compatible with highvolume, lead-free SMT soldering processes.

Features:

- Single-Ended Input and Output
- Terminating Impedance： 50 Ω
- Package code 1411
- Environmental
  - RoHS Compliant

Specifications:

- Operation Temperature:-40°C to +85°C
- Usable passband 26 MHz
- Compact miniature size
  - 1.4 mm × 1.1 mm footprint
  - 0.7 mm max-height

Applications:

- Remote controls
- IOT equipments
- Information& Communications Devices

Electrical Specifications

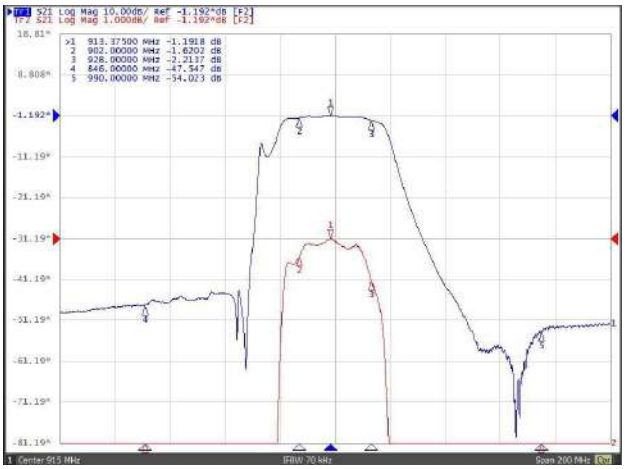
Table 1 Electrical Specifications.

Item		Minimum	Typical	Maximum	Unit
Center Frequency	fc	-	915.00	-	MHz
Insertion Loss 902.00 - 928.00 MHz	IL		1.6	2.6	dB
Amplitude Ripple (p-p) 902.00 - 928.00 MHz	△α		0.6	1.5	dB
Group Delay Ripple 902.00 - 928.00 MHz			15.0	50.0	ns
Absolute Attenuation	α				
0.10 - 702.00 MHz		47.0	53.0	-	dB
738.00 - 764.00 MHz		46.0	52.0	-	dB
820.00 - 846.00 MHz		40.0	48.0	-	dB
990.00 - 1010.00 MHz		42.0	50.0	-	dB
1072.00 - 1092.00 MHz		42.0	50.0	-	dB
1128.00 - 1804.00 MHz		34.0	40.0	-	dB
1804.00 - 1856.00 MHz		34.0	40.0	-	dB
1856.00 - 3000.00 MHz		26.0	33.0	-	dB
Input VSWR 2483.50 - 2500.00 MHz			1.5	2.0	/
Output VSWR 2483.50 - 2500.00 MHz			1.5	2.0	/

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.

Near band



Wide band

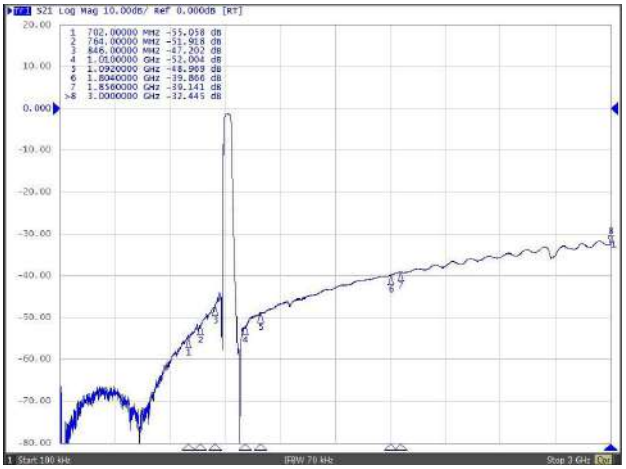
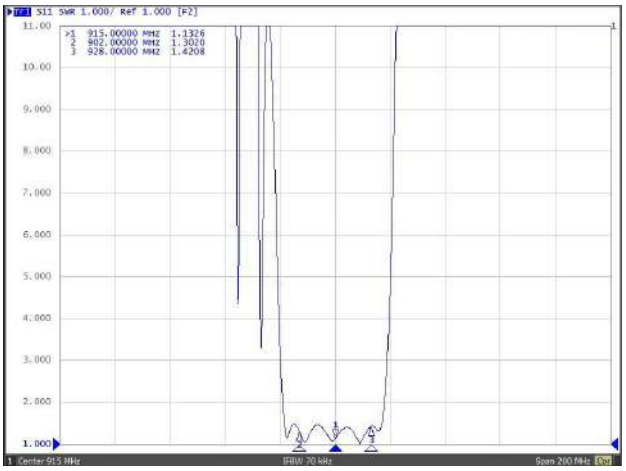
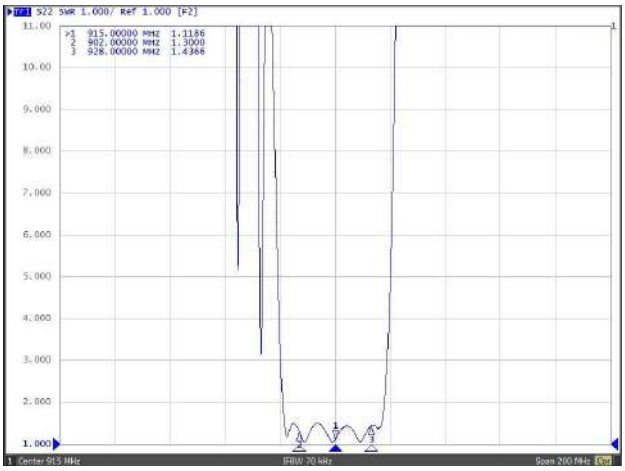


Figure 2 Electrical Characteristics: Delay Ripple & Phase Linearity& VSWR.

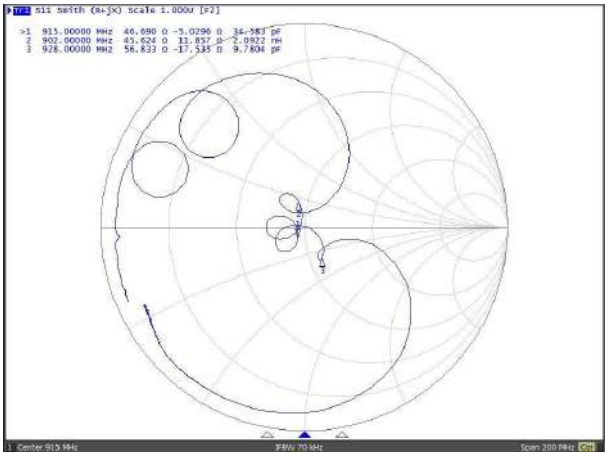
S11 VSWR



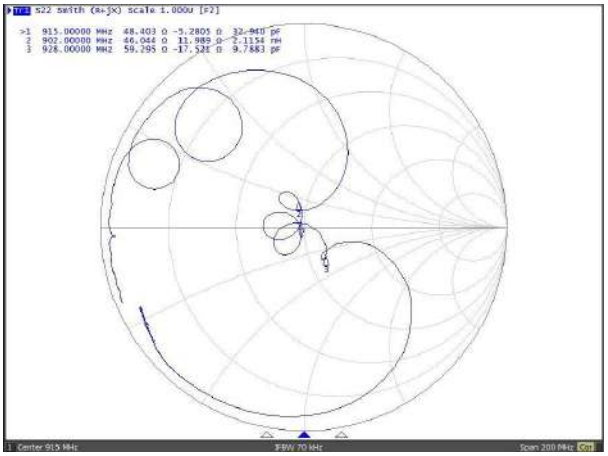
S22 VSWR



S11 Smith Chart



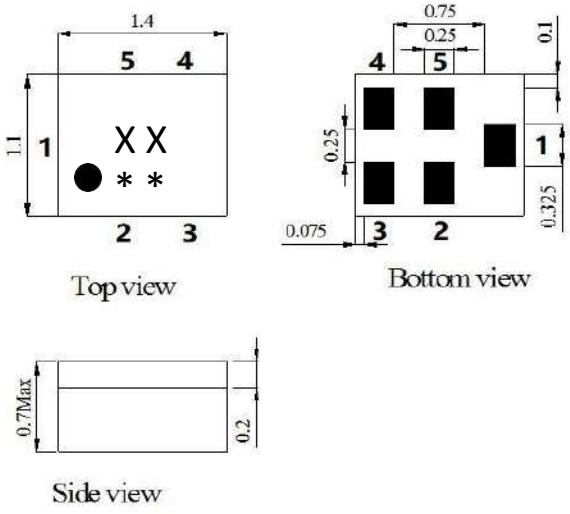
S22 Smith Chart



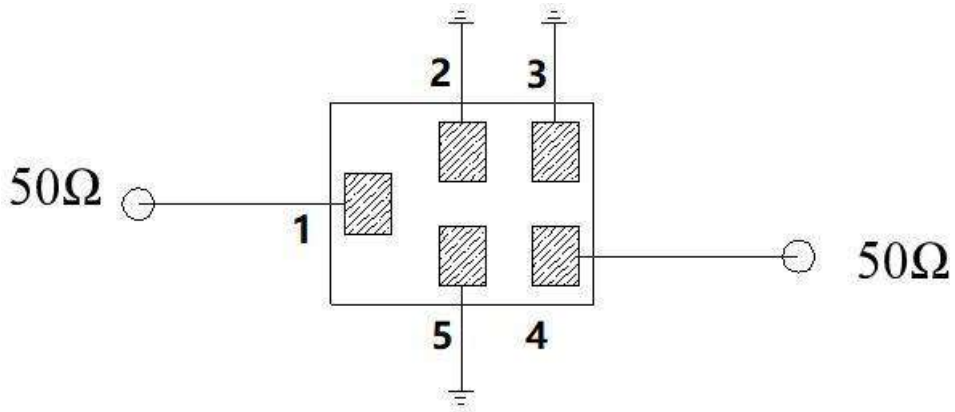
Package & Dimensions

Pin No.	Description
1	Input
4	Output
2,5	Case Ground
3	To be Grounded

XX	Series Number
**	Date Code



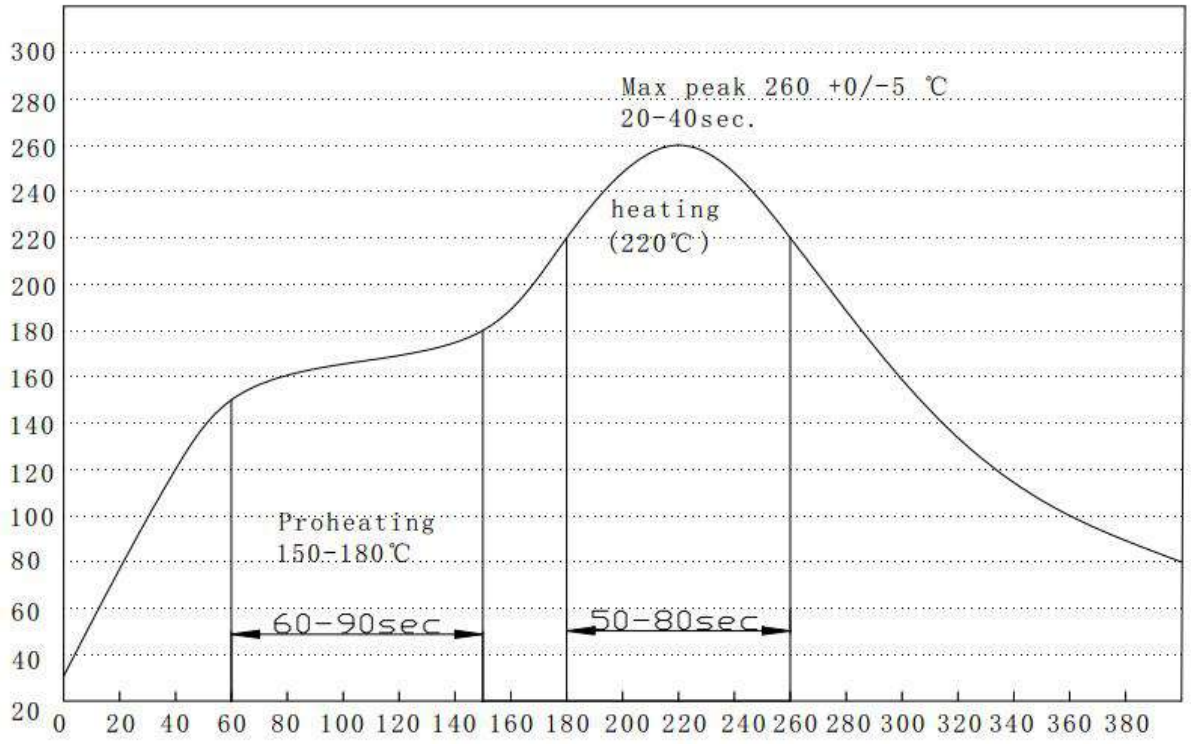
Test circuit



Maximum Ratings

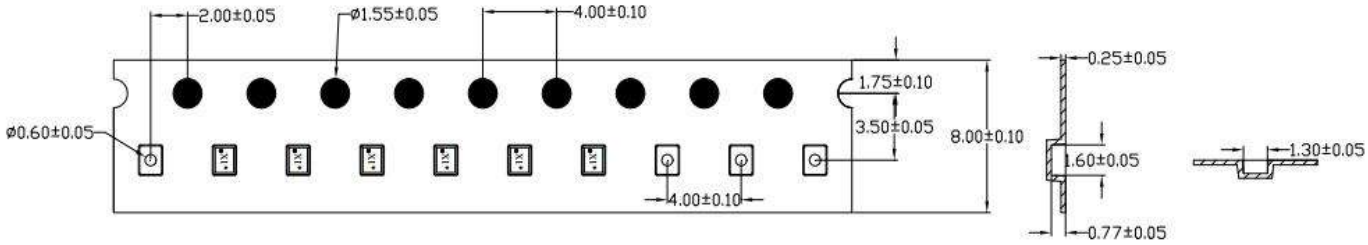
Item		Value	Unit
DC Voltage	V_{DC}	3	V
Operation Temperature	T	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +85	℃
RF Power Dissipation	P	10	dBm

Recommended SMT Solder Profile

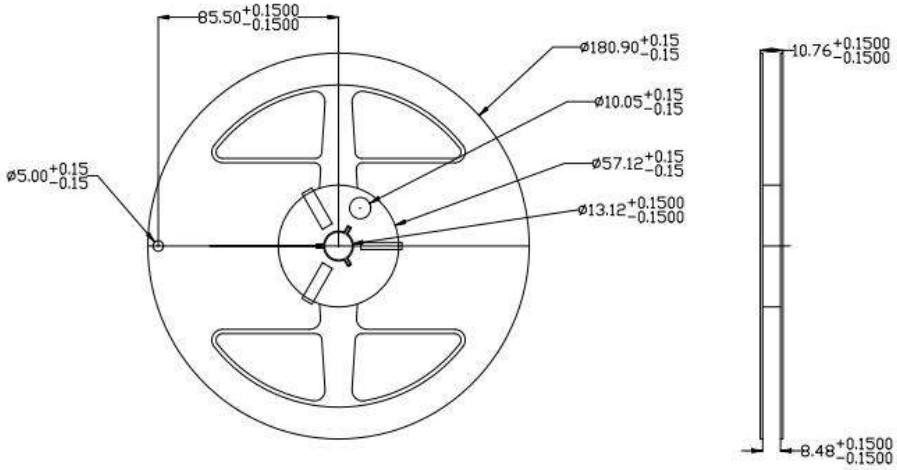


Packing Information

Carrier Tape Dimensions



Reel Dimensions



Ordering Information

Part Number	Number of Devices	Container
SPT915M1411B	5000pcs	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