



## Data Sheet

### Band40 TRx Filter 1109

### SPT2G35ACG1

2022/3/21  
V1.1

#### Description:

The Spectron SPT2G35ACG1 is a miniature B40 TRx filter designed for applications in LTE-A, CAT1, customer premise equipment, and mobile communication devices.

The SPT2G35ACG1 provides +28.5 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT2G35ACG1 exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT2G35ACG1 is compatible with high volume, lead-free SMT soldering processes.

#### Features:

- Unbalanced to unbalanced operation
- Terminating Impedance: 50  $\Omega$
- Compact miniature size
  - 1.1 mm  $\times$  0.9 mm footprint
  - 0.55 mm max-height
- Environmental
  - RoHS 6 Compliant

#### Specifications:

- Performance specified from -20°C to +85°C
- Useable passband 100MHz
- In-band insertion loss: 2.5 dB Max
- High attenuation out of band

#### Applications:

- For LTE-A
- For CAT1
- For Communication Devices

## Electrical Specifications

**Table 1** Electrical Specifications: Single filter.

Input to Output			Specification		
Parameter	Condition [MHz]	Unit	Minimum <sup>1</sup>	Typical <sup>2</sup>	Maximum <sup>1</sup>
Insertion Loss	2300.00 ~ 2400.00	dB	-	1.8	2.5
Inband Ripple	2300.00 ~ 2400.00	dB	-	0.8	1.2
VSWR	2300.00 ~ 2400.00	-	-	1.4	1.8
Absolute Attenuation	10.00 ~ 1574.00	dB	32	37	-
	1574.00 ~ 1577.00	dB	32	37	-
	1577.00 ~ 1680.00	dB	31	36	-
	1710.00 ~ 1980.00	dB	28	33	-
	1845.00 ~ 1880.00	dB	28	33	-
	2110.00 ~ 2170.00	dB	28	33	-
	2421.00 ~ 2443.00	dB <sub>Int</sub>	6	35	-
	2426.00 ~ 2448.00	dB <sub>Int</sub>	15	53	-
	2431.00 ~ 2483.00	dB <sub>Int</sub>	30	50	-
4600.00 ~ 4800.00	dB	38	43	-	

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 frequency range at +25°C.

**Figure 1** Electrical Characteristics: Narrowband.

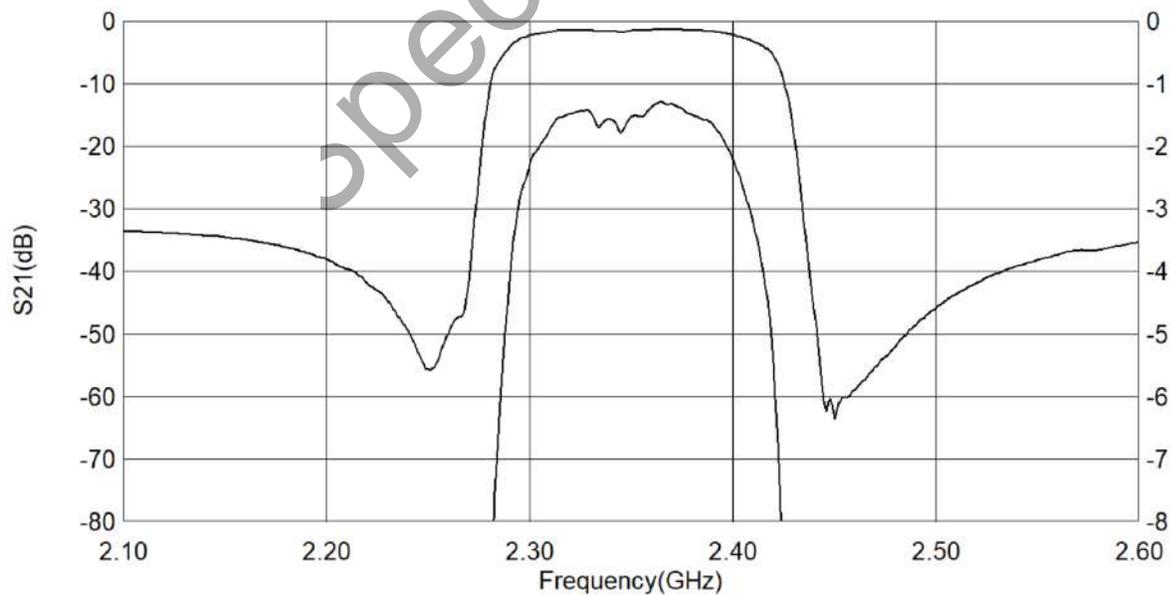


Figure 2 Electrical Characteristics: Wideband.

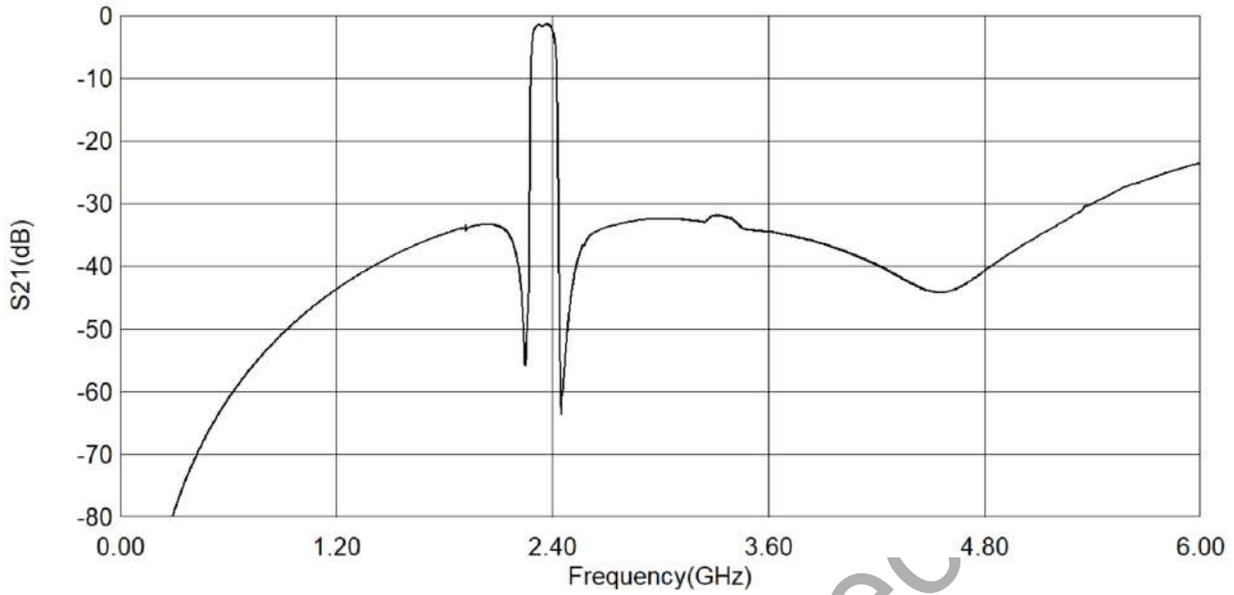
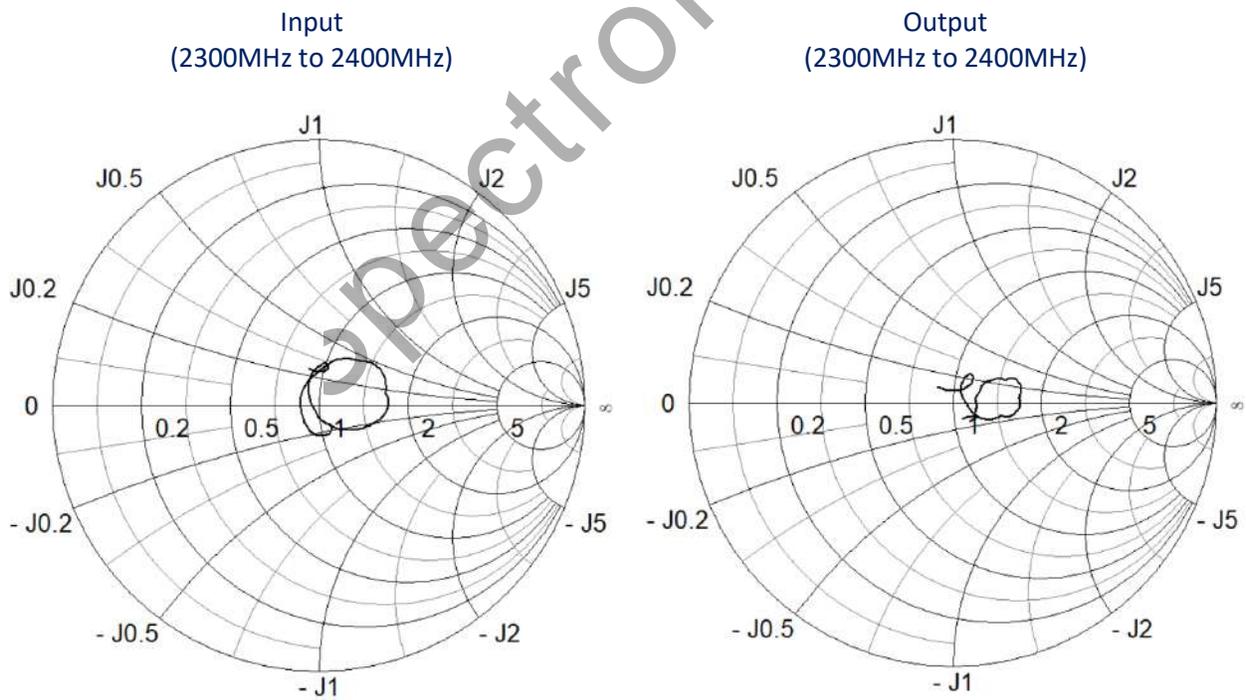
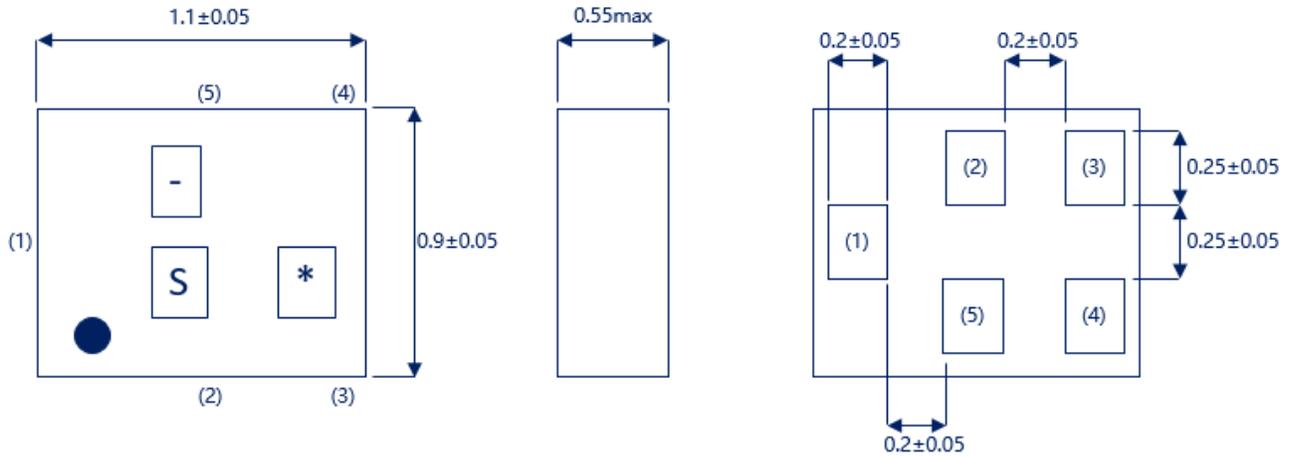


Figure 3 Input and Output Impedances.



Package & Dimensions<sup>1</sup>

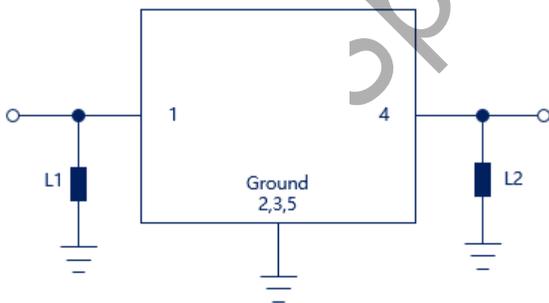


Marking Description	
-	Band Code
S	Date Code
*	Lot Number

Pin Configuration	
1	Input
4	Output
2,3,5	Ground

1. All dimensions are in millimeters. Angles are in degrees.

Matching



Port	Matching Component <sup>1</sup>
Input	L1 : 4.7 nH (Ideal inductor)
Output	L2 : 4.0 nH (Ideal inductor)

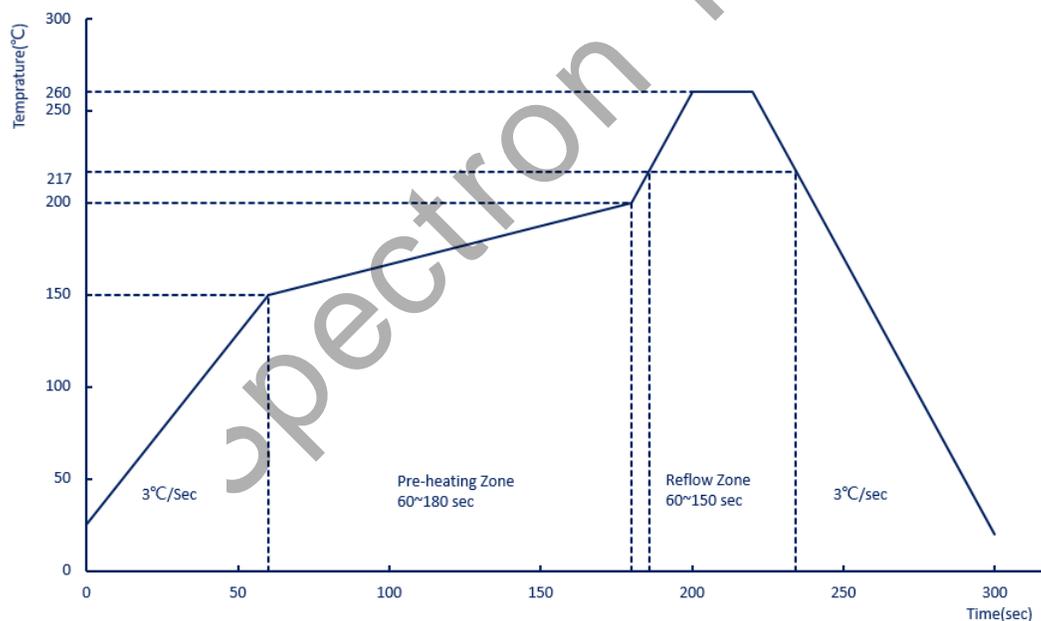
1. Matching component values shown are recommended based on the Spectron evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

## Maximum Ratings<sup>1</sup>

Characteristic	Rating	Unit
Operating Temperature <sup>2</sup>	-20 ~ +85	°C
Storage Temperature	-40 ~ +85	°C
Maximum Input Power <sup>3,4</sup>	+28.5	dBm
DC Voltage Between The Terminals <sup>5</sup>	3	V
ESD Voltage (HBM)	> 100	V
ESD Voltage (CDM)	> 100	V
Moisture Sensitivity Levels	3	/

1. Operation exceeding any one of these conditions may result in permanent damage to the device.
2. The device will function over the recommended range without degradation in reliability or permanent change in performance but is not guaranteed to meet electrical specifications.
3. LTE modulation and 60% duty cycle. Applies over a temperature range of TC = -20° to +85°C.
4. Maximum input power is only specified for input power of SPT2G35ACG1 (Pin 1).
5. The DC resistance from Pin 1 and 4 (Input/Output) to Pin2, Pin3 and Pin5(Ground) of this device is typically hundreds of kΩ to MΩ.

## Recommended SMT Solder Profile



## Ordering Information

Part Number	Number of Devices	Container
SPT2G35ACG1	10000pcs	Tape and Reel

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