Spectron® Technologies

Data Sheet
Band41 TRx Filter 1109
SPT2G59ACG1

2021/5/25
V1.2

Description:

The Spectron SPT2G59AGC1 is a miniature B41 TRx filter designed for applications in LTE-A, CAT1, customer premise equipment, and mobile communication devices.

The SPT2G59AGC1 provides +29 dBm power handling, low insertion loss and high out of band rejection.

The design and manufacturing of the SPT2G59AGC1 exploit Spectron's exclusive TSAW technology to deliver competitive performance against state of the art at a low cost.

The SPT2G59AGC1 is compatible with high volume, lead-free SMT soldering processes.

Features:

- Unbalanced to unbalanced operation
- Terminating Impedance: 50 Ω
- Compact miniature size
  - 1.1 mm × 0.9 mm footprint
  - 0.6 mm max-height
- Environmental
  - RoHS 6 Compliant

Specifications:

- Performance specified from -20°C to +85°C
- Useable passband 120MHz
- In-band insertion loss: 2.4 dB Max

Applications:

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

Electrical Specifications

Table 1 Electrical Specifications: Single filter.

Single Filter			Specification		
Parameter	**Condition [MHz]**	**Unit**	**Minimum[1]**	**Typical[2]**	**Maximum[1]**
Insertion Loss	2535.00 ~ 2655.00	dB	-	1.9	2.4
Inband Ripple	2535.00 ~ 2655.00	dB	-	0.5	2.0
VSWR	2535.00 ~ 2655.00	-	-	1.6	2.1
Absolute Attenuation	10.00 ~ 960.00	dB	38	43	-
	1225.00 ~ 1559.00	dB	20	25	-
	1559.00 ~ 1606.00	dB	20	25	-
	1606.00 ~ 1710.00	dB	20	25	-
	1710.00 ~ 2170.00	dB	18	20	-
	2170.00 ~ 2400.00	dB	18	20	-
	2401.00 ~ 2483.00	dB	20	25	-
	2750.00 ~ 4900.00	dB	20	25	-
	4900.00 ~ 6000.00	dB	23	28	-

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.

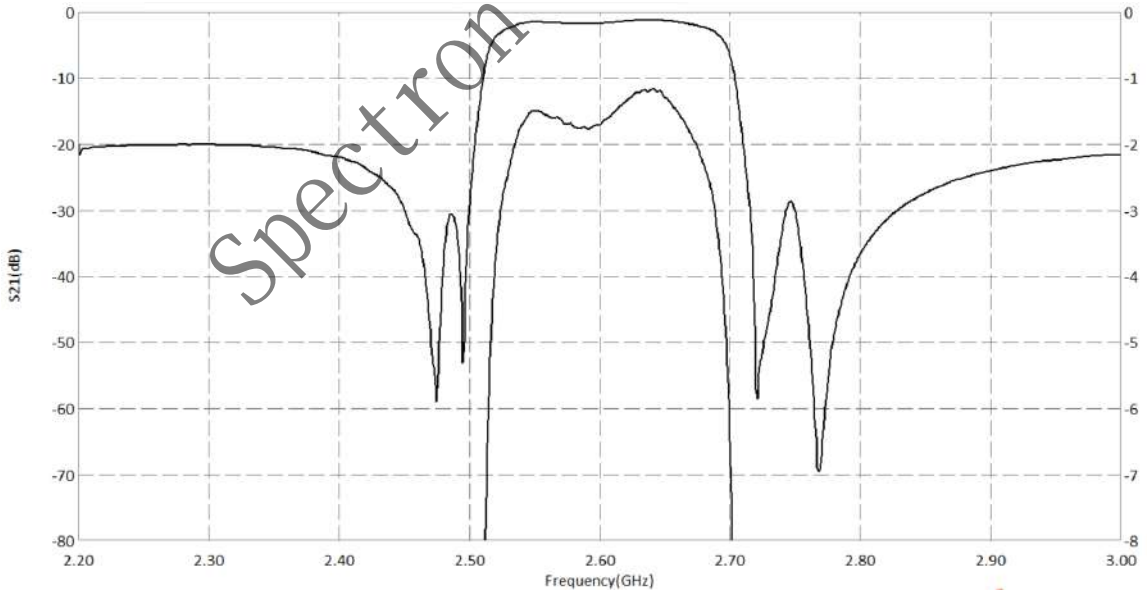


Figure 2 Electrical Characteristics: Wideband.

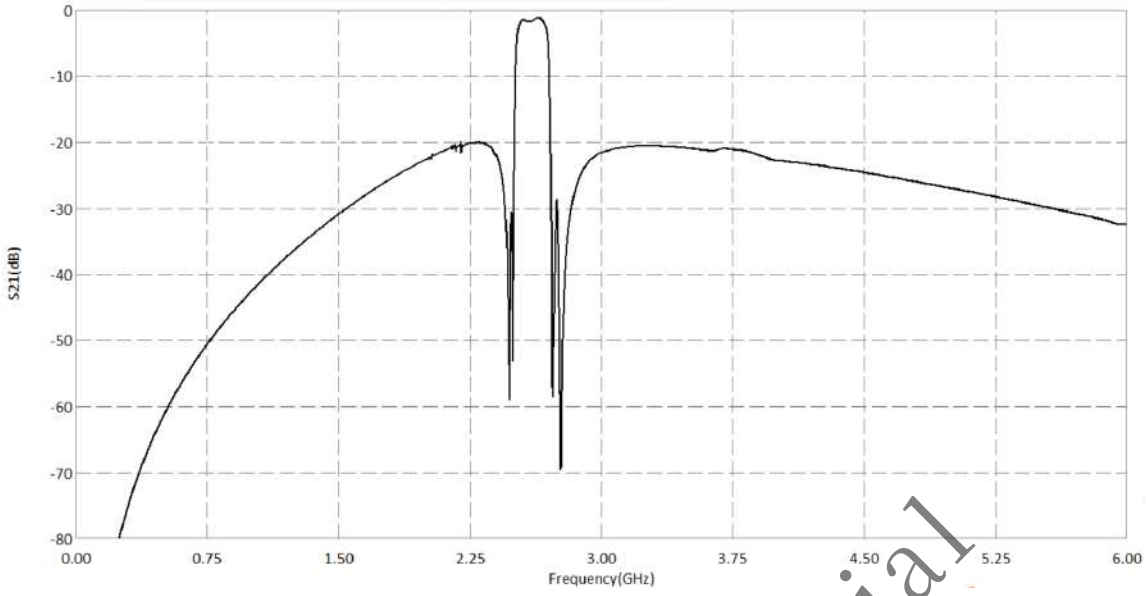
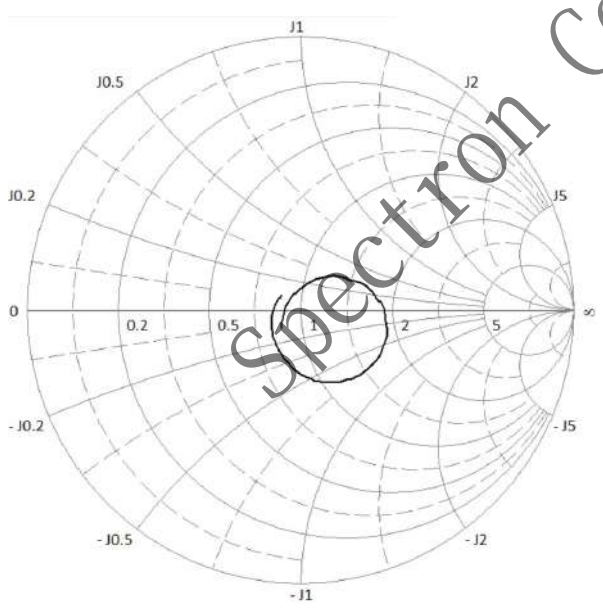
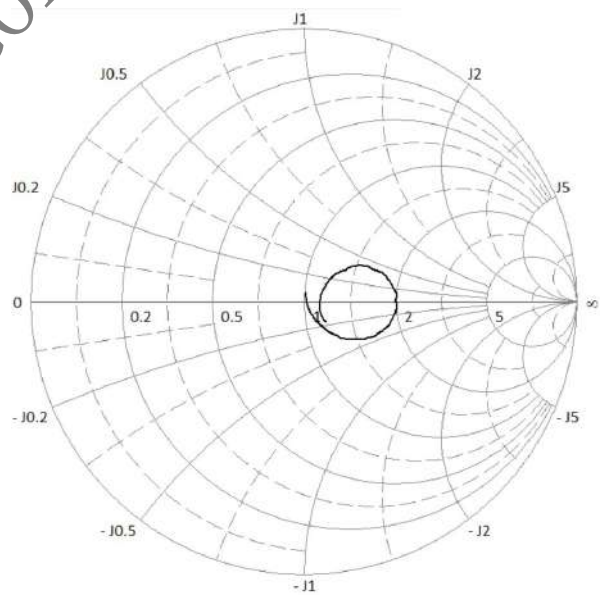


Figure 3 Input and Output Impendences.

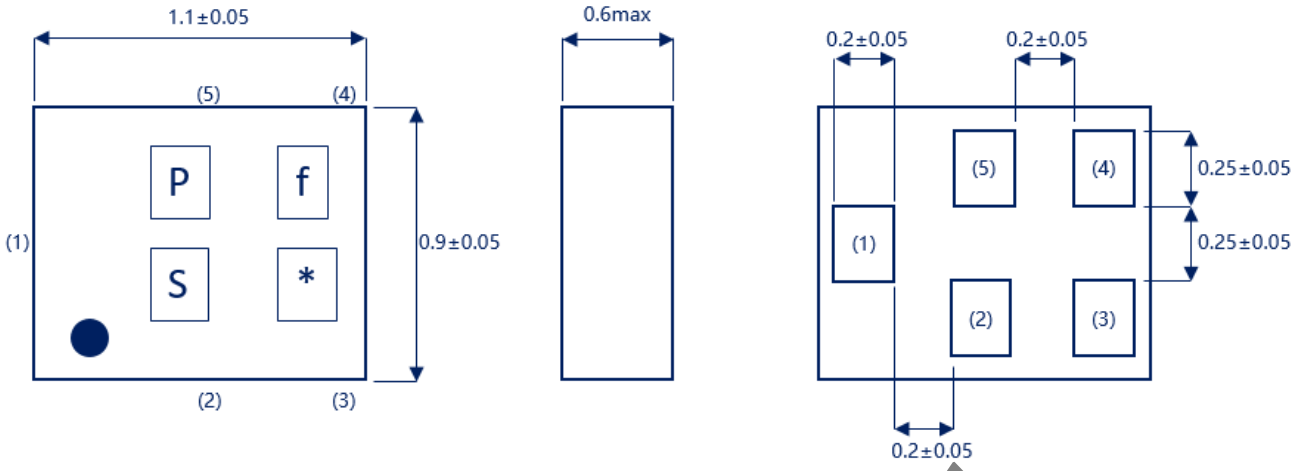
Input
(2535MHz to 2655MHz)



Output
(2535MHz to 2655MHz)



Package & Dimensions[1]

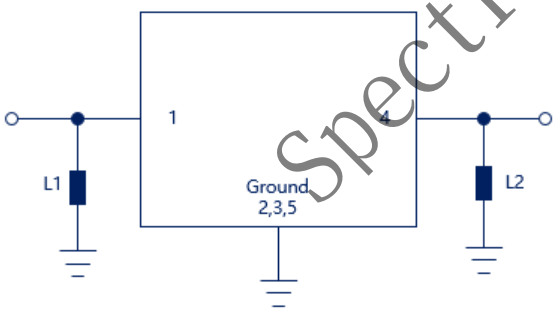


Marking Description	
P	Status Code
f	Band Code
S	Date Code
*	Lot Number

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

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

Matching



Port	Matching Component[1]
Input	L1 : 3.1 nH (Ideal inductor)
Output	L2 : 3.1 nH (Ideal inductor)

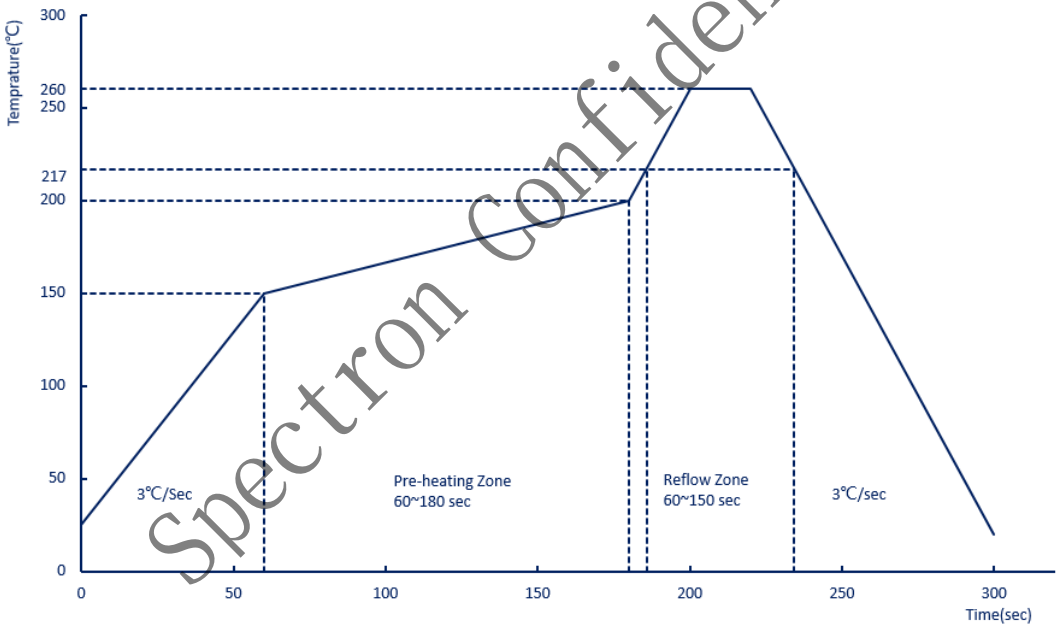
1. Matching component values shown are recommended based on the Spectron evaluation board. Value adjustment may be required on the end-user's circuit boards for the selected component manufacturer and PCB material.

Maximum Ratings[1]

Characteristic	Rating	Unit
Operating Temperature[2]	-20 ~ +85	℃
Storage Temperature	-40 ~ +85	℃
Maximum Input Power[3,4]	+29	dBm
DC Voltage Between The Terminals[5]	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. Applies over a temperature range of TC = –20° to +85°C.
4. Maximum input power is only specified for input power of SPT2G59AGC1 (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
SPT2G59AGC1-1	10000pcs	Tape and Reel