

SAW Single Filter

for B41 / Unbalanced / 5pin /1109

Pinnacle PN: SA4111092G59BT

Key Feature:

✓ LTE Band41 120MHz (2535-2655 MHz)

✓ Narrow Band 41 Post PA TX filter

1 Description

SA4111092G59BT is a high-performance Surface Acoustic Wave (SAW) bandpass filter optimized for TD-LTE applications operating in the range of 2.535-2.655 GHz. It is designed to provide both low insertion loss in the Band 41 and high rejection in the adjacent cellular Bands for mobile devices.

SA4111092G59BT uses advanced Chip Scale Package (CSP) technology and is housed in an industry-standard, 5-pin 1.1mm x0.9mm package with a low profile of 0.6mm max.

2 Features

- Low Insertion Loss: 1.35dB at Mid-Band
- High Rejection in WIFI
- Small Footprint: $0.25 \pm 0.03\text{mm} \times 0.20 \pm 0.03\text{mm}$.
- Package size $1.1 \pm 0.05\text{mm} \times 0.9 \pm 0.05\text{mm}$
- Electrostatic Sensitive Device(ESD)
- Package height 0.6mm max.
- Single-Ended Operation
- RoHS Compliant

3 Package & Dimensions

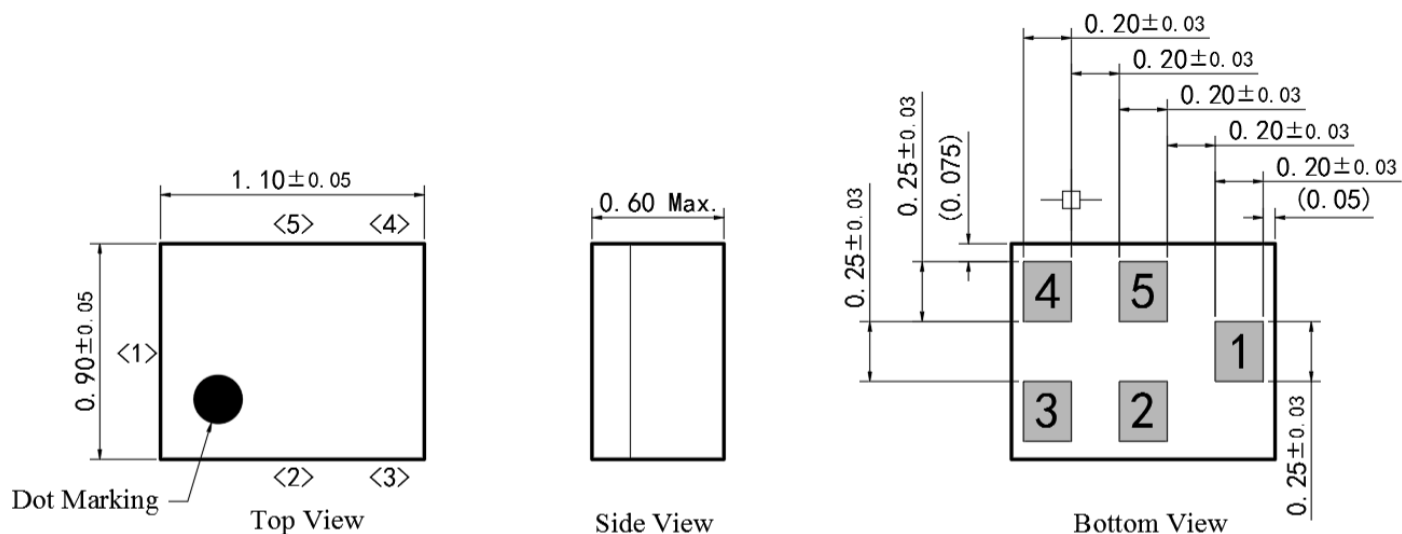


Figure 1: Drawing of Package with each tolerance range

4 Pin configuration

- 1 Input (recommended)
- 4 Output (recommended)
- 2,3,5 To be grounded

5 Matching Circuit(recommended)

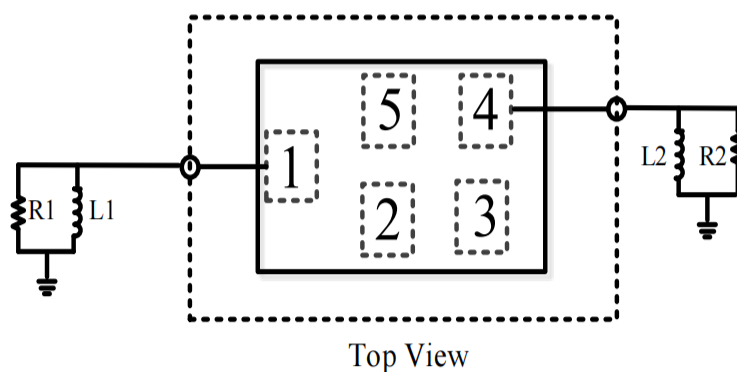


Figure 2: Schematic of matching circuit.

R1: 50 Ohm	L1: 1.8 nH (Q≈50 @2.600GHz)
R2: 50 Ohm	L2: 1.8 nH (Q≈50 @2.600GHz)

6 Absolute Maximum Ratings

Parameter	Rating	Unit
Operating Temperature	-30 to +85	°C
Storage Temperature	-40 to +85	°C
Maximum Input Power	+29	dBm
Maximum DC Voltage	5	V
Input terminating impedance	50	Ω
Output terminating impedance	50	Ω
Input Power@input port	Pin=29dBm Continuous wave for 5000h@+55°C	

7 Recommended Soldering Profile

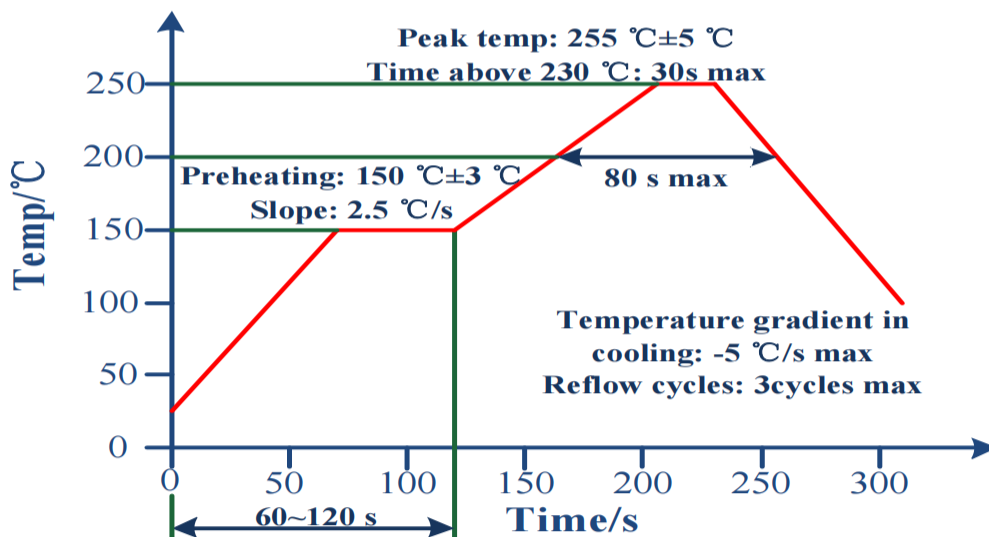


Figure 3: Recommended Reflow profile for convection and infrared soldering -lead-free solder.

8 Electrical Specifications

Parameter	Conditions	Min	Typ.	Max	Unit
Insertion Loss	2535 - 2655 MHz	-	2.0	2.8	dB
Passband Ripple	2535 - 2655 MHz	-	1.0	2.0	dB
Attenuation	10 - 1225 MHz	30	45	-	dB
	1225 - 1559 MHz	22	32	-	dB
	1559 - 1606 MHz	18	25	-	dB
	1606 - 1710 MHz	15	21	-	dB
	1710 - 2170 MHz	15	20	-	dB
	2170 - 2400 MHz	16	25	-	dB
	2401- 2483 MHz	30	38	-	dB
	2750- 4900 MHz	20	30	-	dB
	4901- 6000 MHz	22	30	-	dB
VSWR(input)	2535 - 2655 MHz	-	1.5	2.0	-
VSWR(output)	2535 - 2655 MHz	-	1.5	2.0	-

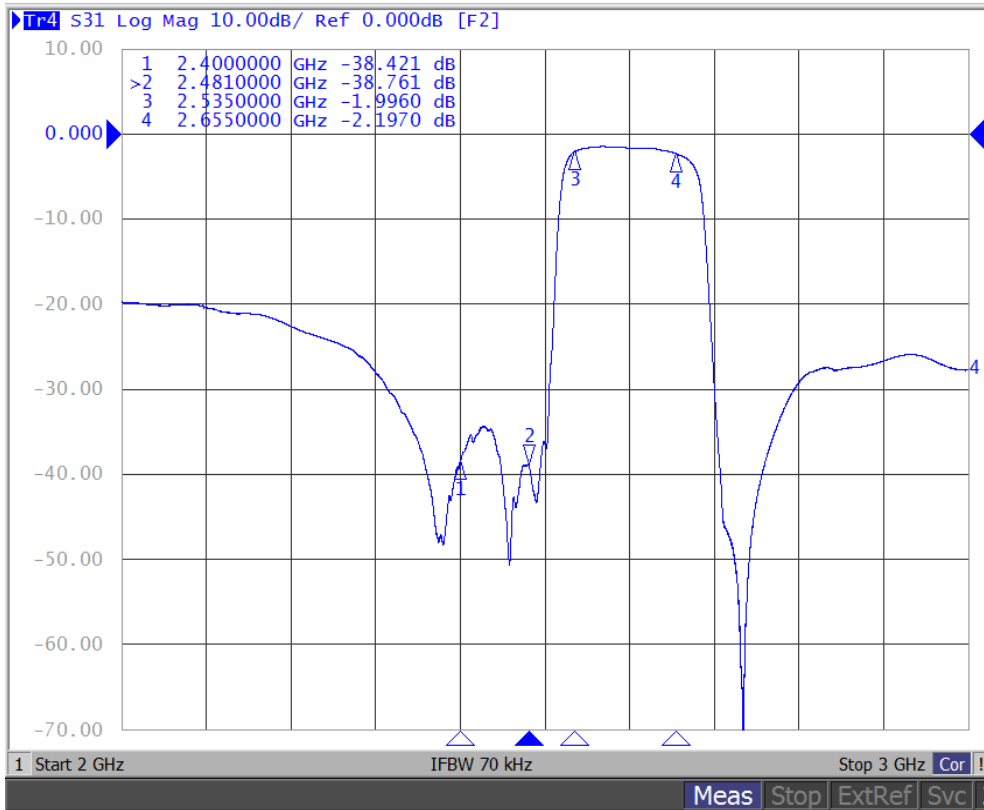
9 Transmission coefficient


Figure 4: |S21|

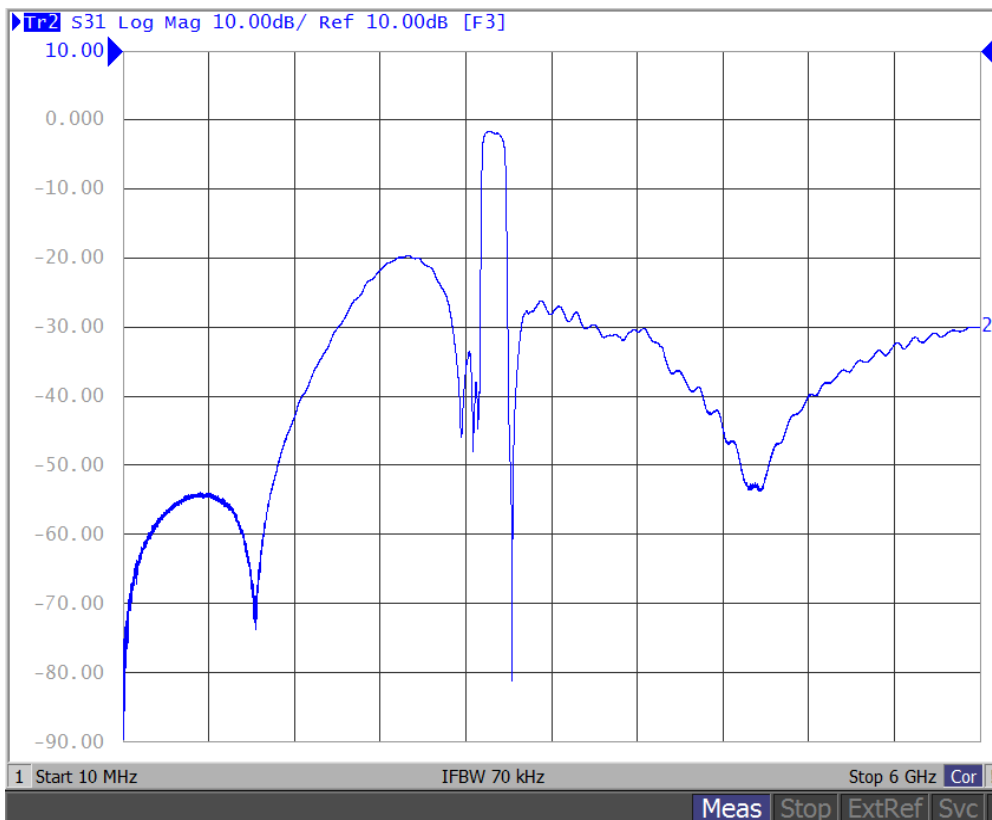


Figure 5: Wide Band |S21|

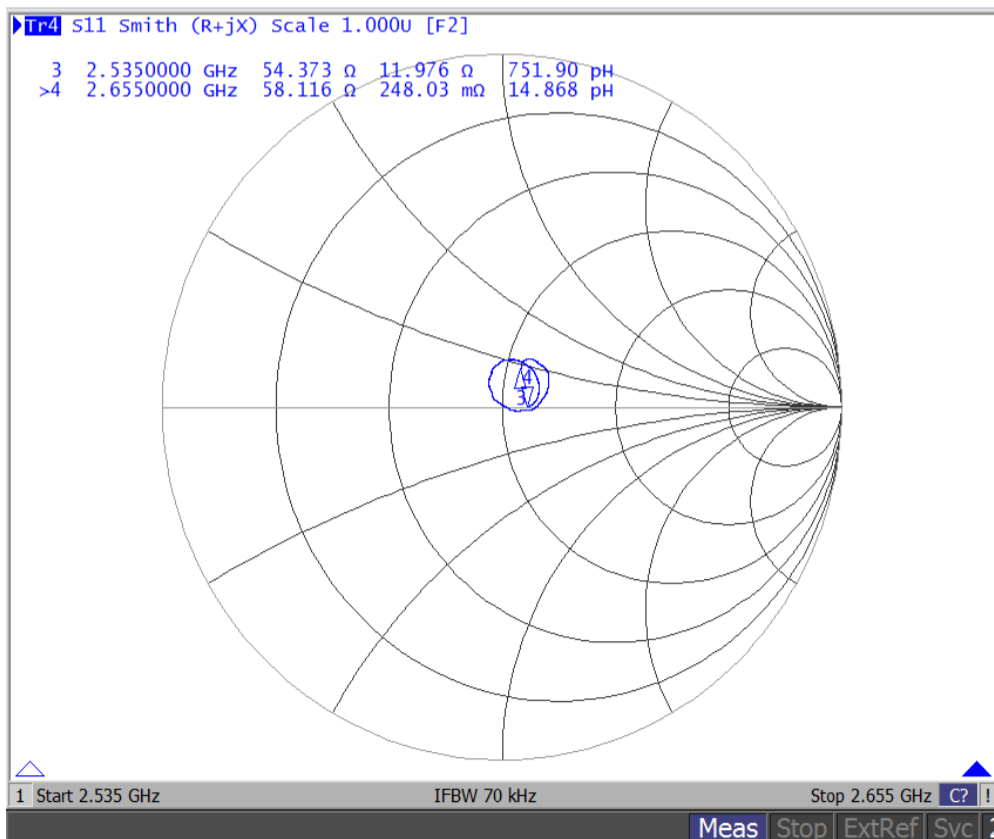
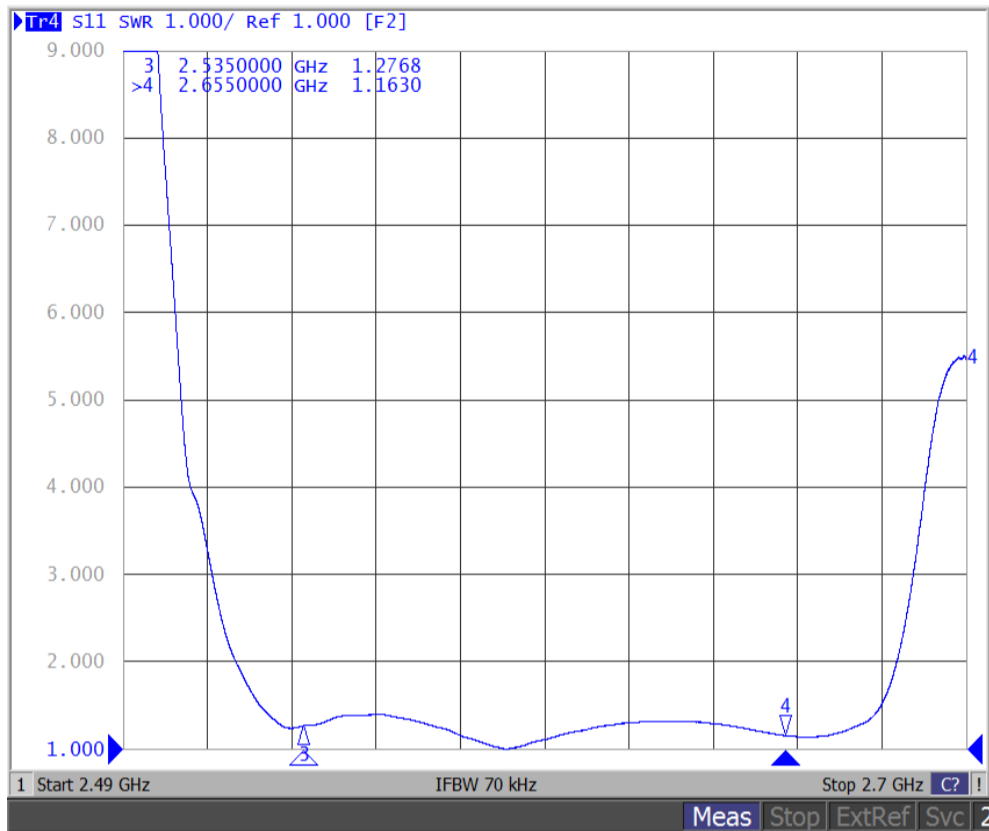
10 Reflection coefficients


Figure 6: Reflection coefficient (S11)

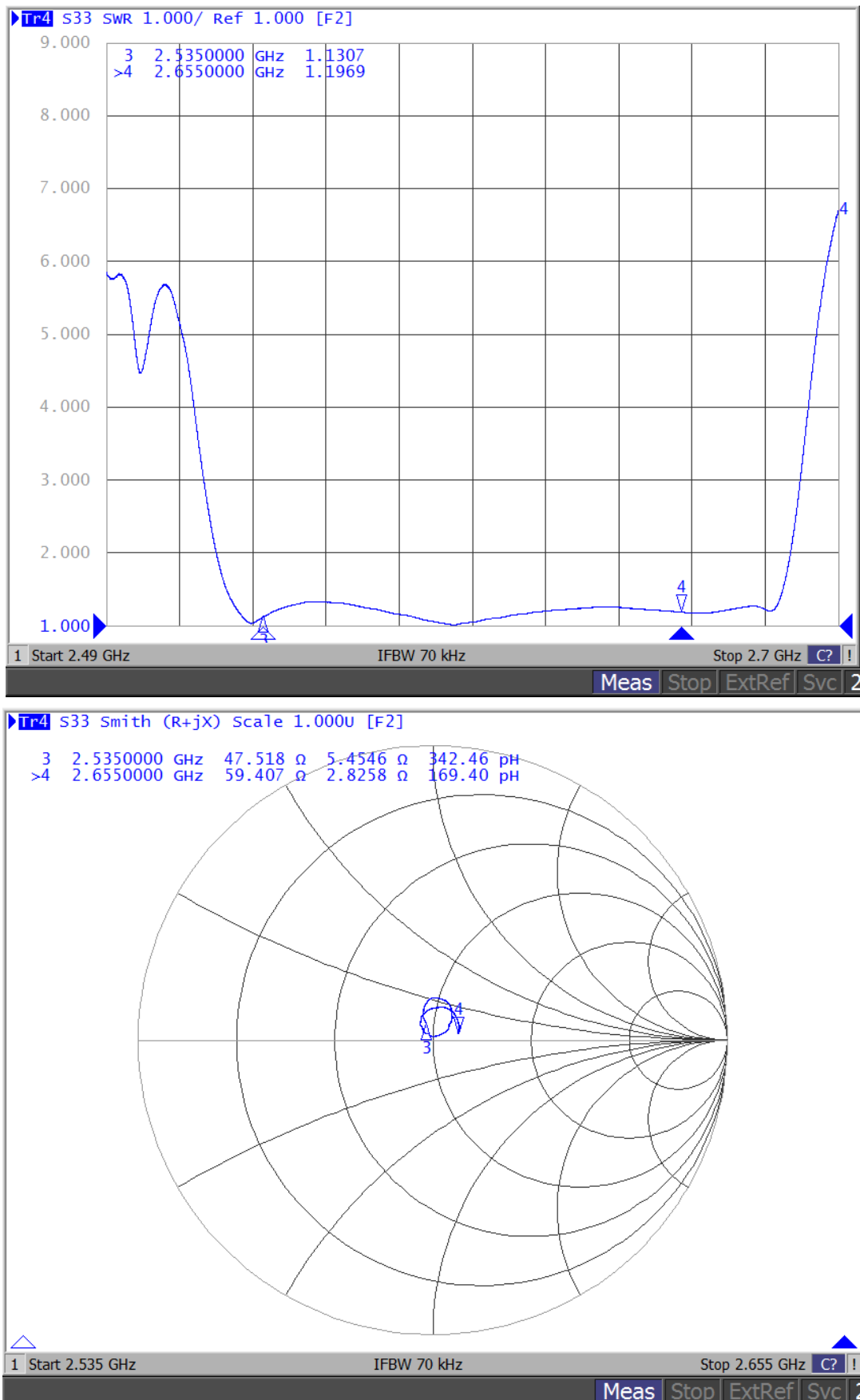


Figure 7: Reflection coefficient (S22)

11 Packing material

11.1 Tape

Tensile Strength of Carrier Tape: Carrier tape 10N or more; Cover tape 5N or more. Packaging quantities: 5000 PCS / Reel.

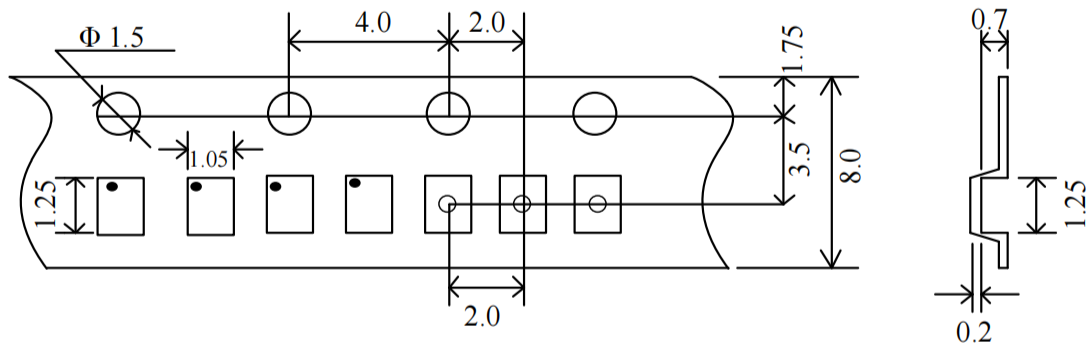


Figure 8: Drawing of tape with tape dimensions according to above.

11.2 Reel with diameter of 178mm

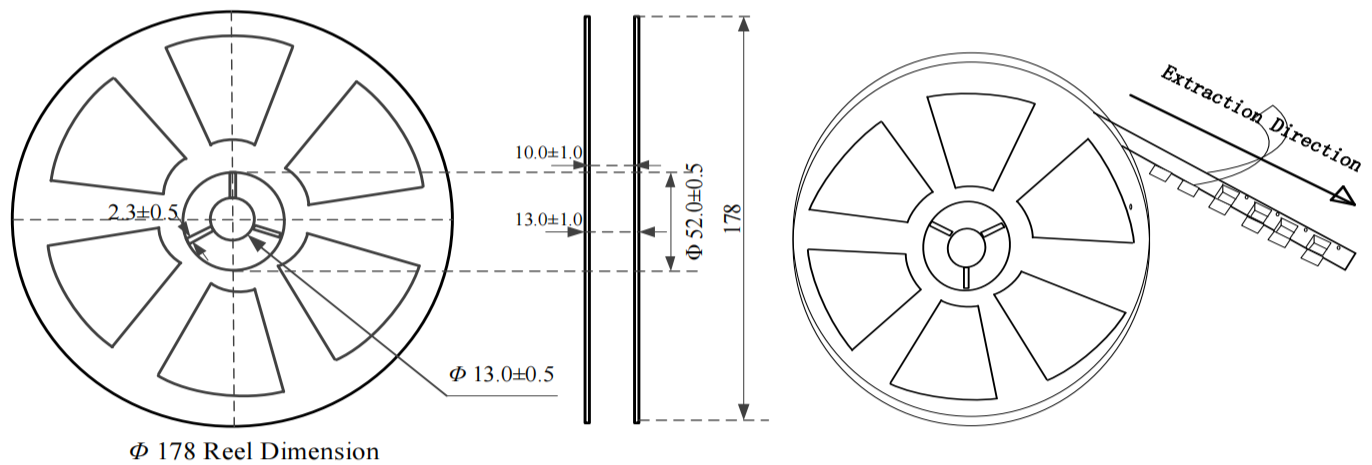


Figure 9: Drawing of reel with diameter of 178mm.