YATELIAN

YTLD2512C

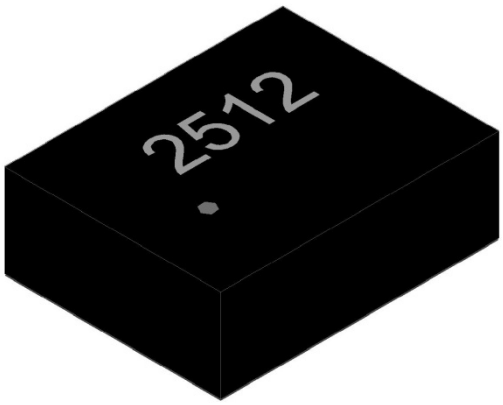
Band7 FBAR Duplexer

Description

YTLD2512C is a high performance duplexer designed for applications in LTE Band7 (2500~2570 MHz UL, 2620~2690 MHz DL).

YTLD2512C is designed with ROFS's Film Bulk Acoustic Resonator (FBAR) technology, which provides high-Q filters and meets requirements of low insertion loss, high VSWR decreases loss at Tx port, high out-of-band attenuation, high power handling and stringent linearity.

YTLD2512C uses chip scale packaging (CSP) technology to assembly the filters into a molded chip-on-board module with the footprint of 1.8mm x 1.4mm and height of 0.61mm.



8 Pin 1.8 x 1.4 x 0.61mm Package

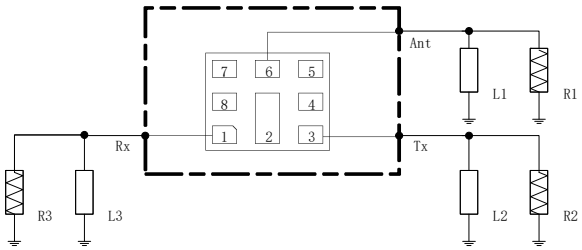
Features

- Miniature Size
  1.8 mm x 1.4 mm x 0.61 mm
- Insertion Loss:
  - Tx 2.1 dB Typ.
  - Rx 2.1 dB Typ.
- Tx-RX Isolation:
  - Tx Pass Band 53 dB Typ.
  - Rx Pass Band 60 dB Typ.
- Tx Input Power
  - +30 dBm CW for 5000h @ +55℃
- ESD protection ability：Class1C
- Moisture Sensitivity: MSL3
- Storage Temperature：-40 to +85 ℃

Environmental

- Full implement with RoHS compliant
- Lead Free (Pb free)

Functional Block Diagram（Top Thru View）



Reference Des.	Value	Description
R1	50ohm	
R2	50ohm	
R3	50ohm	
L1	2.0nH	Ideal Inductor
L2	6.2nH	Ideal Inductor
L3	3.6nH	Ideal Inductor

Pin Connection

No.	Function
1	Rx
3	Tx
6	Ant
2,4,5,7,8	Ground

Electrical Specification

Transmit Port to Antenna Port				
Parameter (Operation Temperature: -20 to +85 ℃)	**Min**	**Typ***	**Max**	**Unit**
Insertion Loss (2500~2570MHz)	/	2.1	2.8	dB
Ripple(2500~2570MHz)	/	0.7	1.5	dB
VSWR (2500~2570MHz,*ANT Port*)	/	1.3	1.8	\
VSWR (2500~2570MHz,*TX Port*)	/	1.3	1.8	\
Absolute Attenuation(500~8000MHz)				
(500~1560MHz)	30	39	/	dB
(1565 ~1606MHz)	34	39	/	dB
(1805~1880MHz)	33	38	/	dB
(2110~2170MHz)	36	43	/	dB
(2300~2400MHz)	34	39	/	dB
(2400~2472MHz)	33	38	/	dB
(2472~2481MHz)	24	29	/	dB
(2620~2690MHz)	52	57	/	dB
(3400~3600MHz)	31	36	/	dB
(5000~5140MHz, ***2f0***)	26	31	/	dB
(5600~7500MHz)	22	29	/	dB
(7500~7710MHz, ***3f0***)	41	46	/	dB

Antenna Port to Receive Port				
Parameter (Operation Temperature: -20 to +85 ℃)	**Min**	**Typ***	**Max**	**Unit**
Insertion Loss (2620~2690MHz)	/	2.1	2.8	dB
Ripple(2620~2690MHz)	/	0.8	1.5	dB
VSWR(2620~2690MHz,ANT Port)	/	1.4	1.8	\
VSWR (2620~2690MHz,RX Port)	/	1.3	1.8	\
Absolute Attenuation(500~8000MHz)				
(500~1680MHz)	40	50	/	dB
(1710~1785MHz)	43	48	/	dB
(1920~1980MHz)	40	45	/	dB
(2400~2500MHz)	43	48	/	dB
(2500~2570MHz)	46	51	/	dB
(2750~4900MHz)	40	45	/	dB
(5240~5380MHz, ***2f0***)	34	39	/	dB
(5400~7800MHz)	22	29	/	dB
(7860~7965MHz, ***3f0***)	33	38	/	dB

Transmit Port to Receive Port				
Parameter(Operation Temperature: -20 to +85 ℃)	**Min**	**Typ***	**Max**	**Unit**
Isolation				
2500~2570MHz	47	53	/	dB
2620~2690MHz	53	60	/	dB

*Data is the integrated value of the linear s-parameter over indicated band

* Typical value at 25±3 ℃

Typical Performance at Tc=25℃

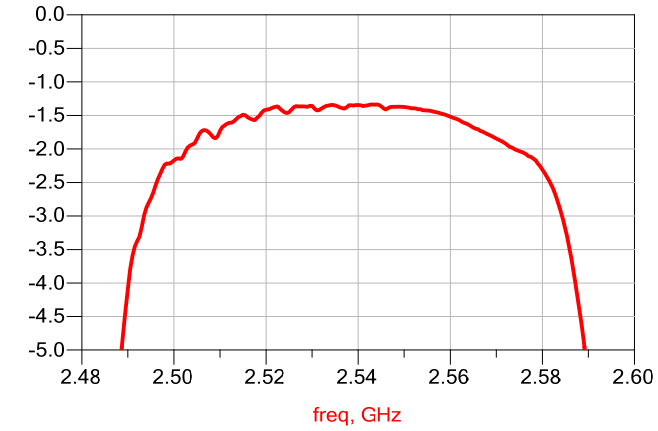


Figure1. TX-ANT Passband

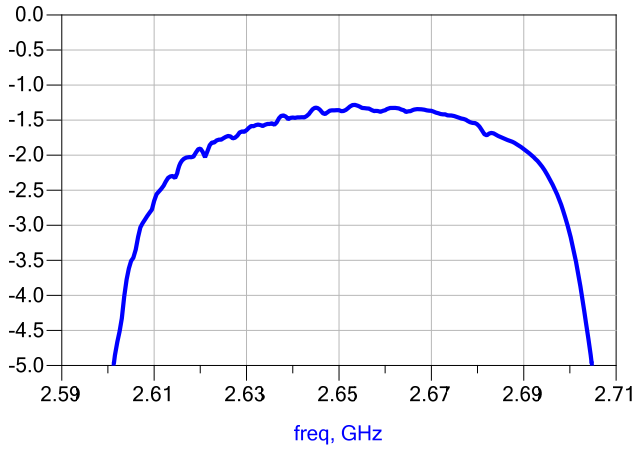


Figure2. ANT-RX Passband

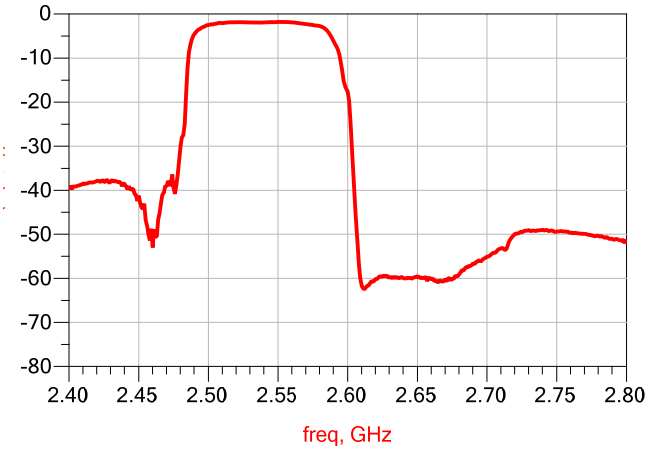


Figure3. TX-ANT

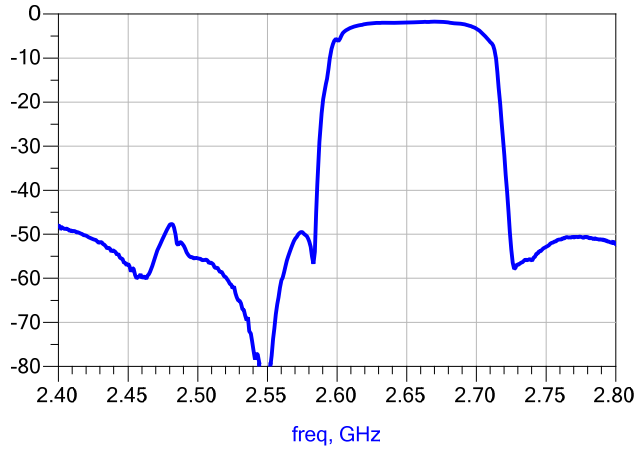


Figure4. ANT-RX

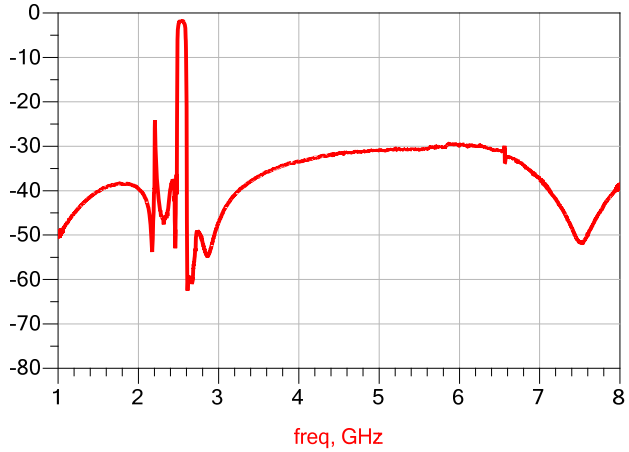


Figure5. TX-ANT Wideband

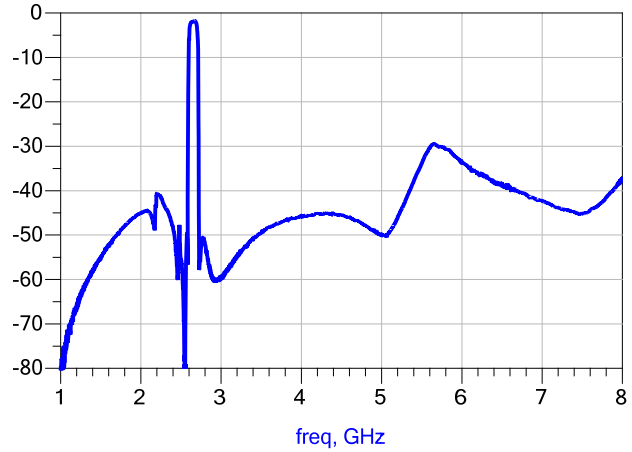


Figure6. ANT-RX Wideband

Typical Performance at Tc=25℃

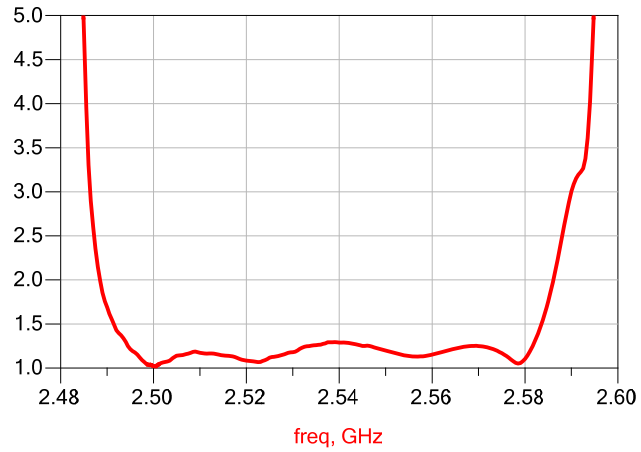


Figure7. TX Port VSWR

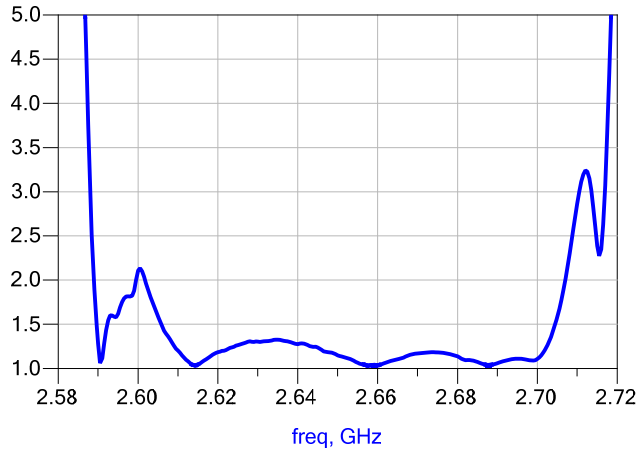


Figure8. RX Port VSWR

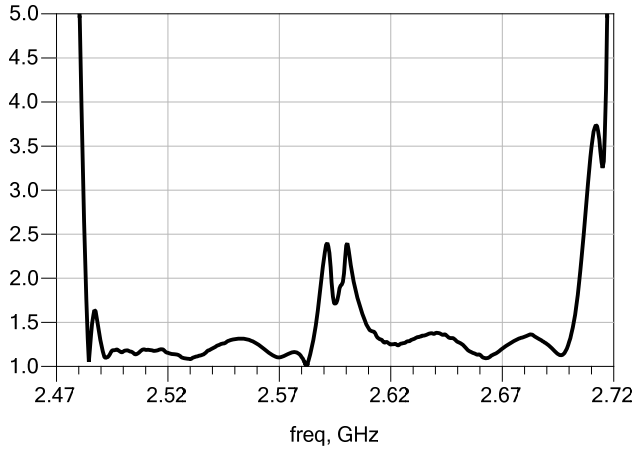


Figure9. Ant Port VSWR

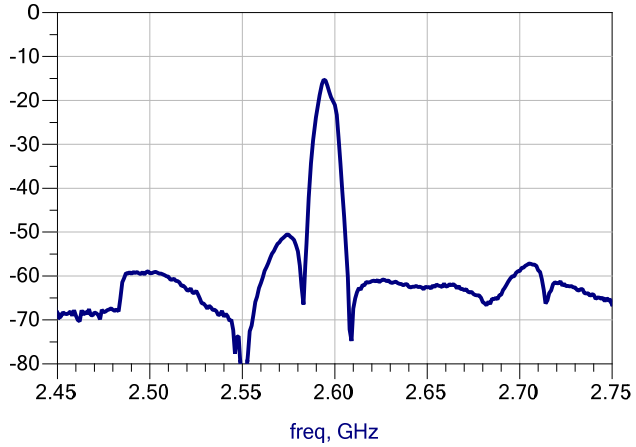


Figure10. TX - RX Isolation

Typical Performance at Tc=25℃

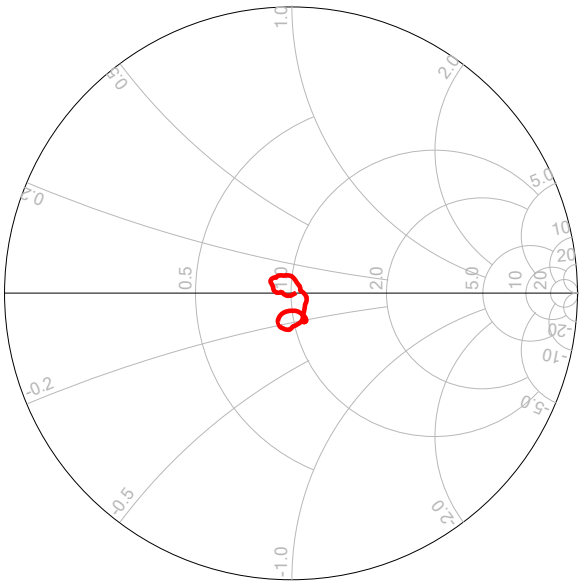


Figure11. TX Smith Chart

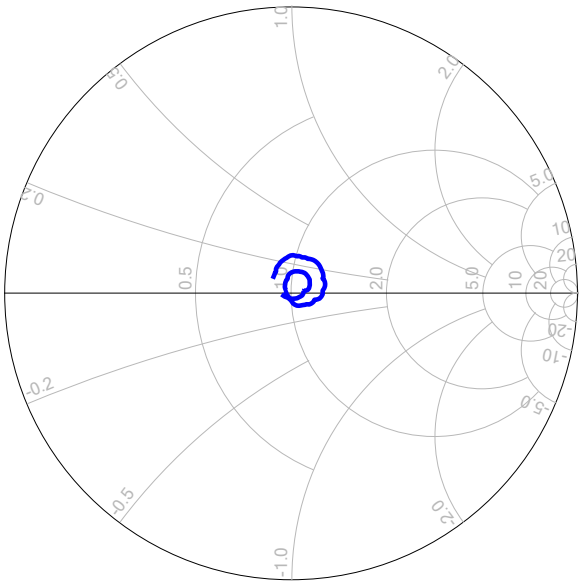


Figure12. RX Smith Chart

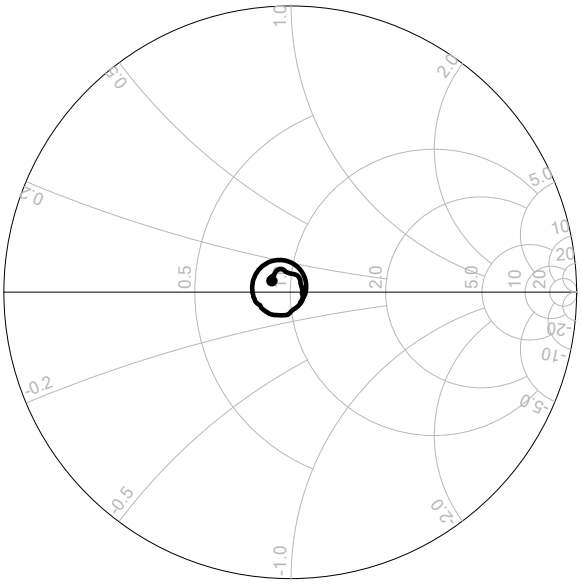


Figure13.Ant (Tx Pass Band) Smith Chart

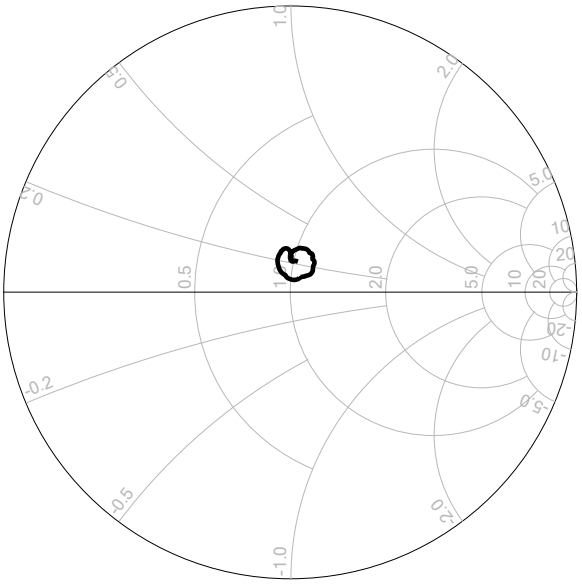
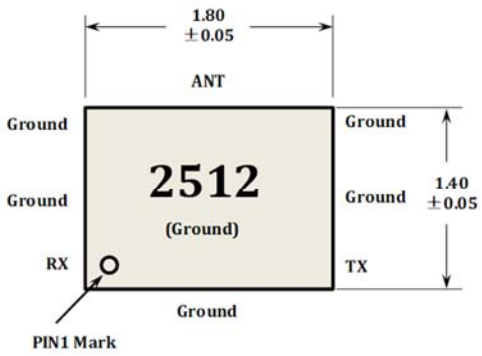
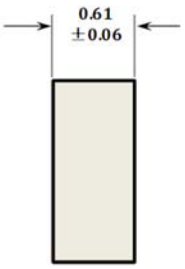
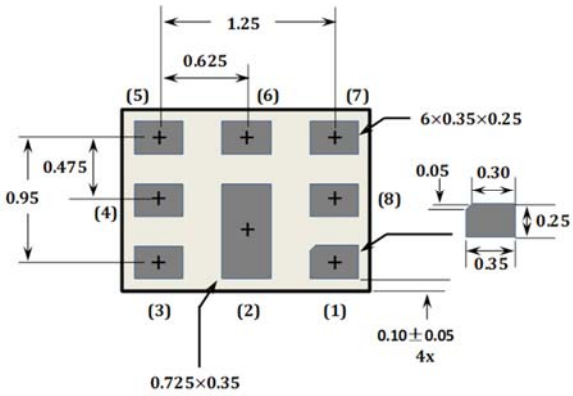


Figure14. Ant (Rx Pass Band) Smith Chart

Pac kage Outline







Top View **Side View** **Bottom View**

Note:

1. Dimension: mm
2. Dimensions nominal unless otherwise noted
3. Contact area are gold plated
4. Pad(1)(2) is single size, others are same size
5. 2512 is product code

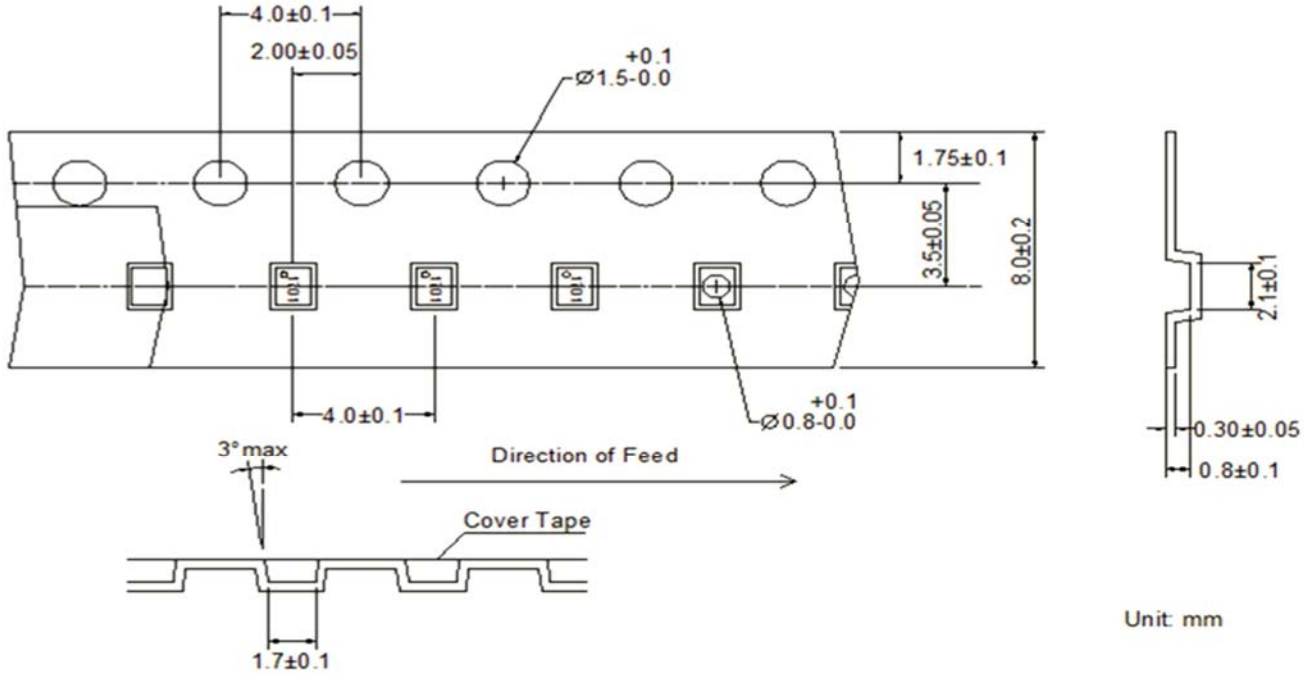
No.	Function
1	Rx
3	Tx
6	Ant
2,4,5,7,8	Ground

Order Information

P/N	Qty/Reel	Container
YTLD2512C	4000	7 inch Reel

Packing

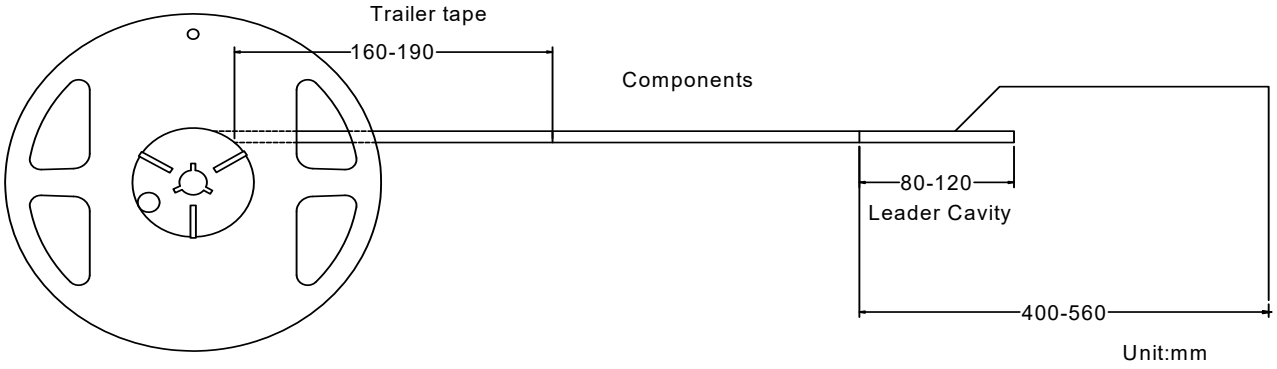
1. Tape Dimension



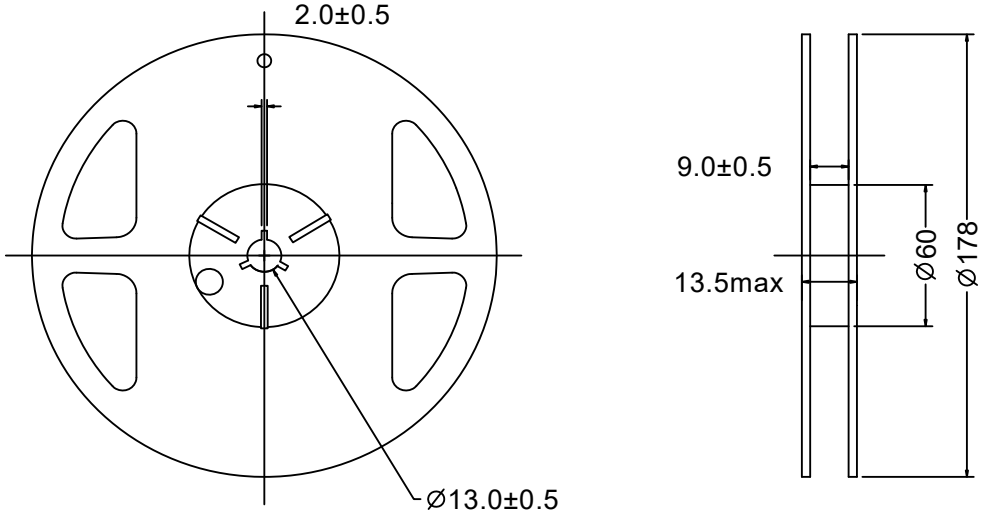
Unit: mm

2. Reel Dimension

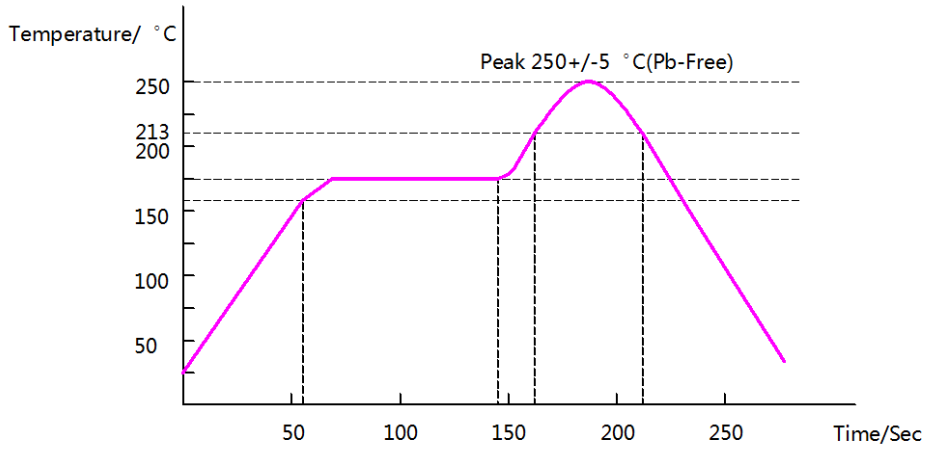
4000Pcs/Reel



Unit:mm



Recommended Reflow Profile



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