YATELIAN

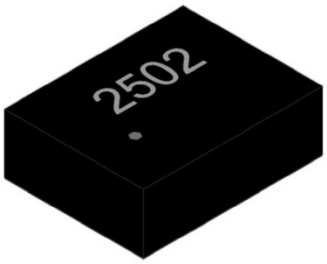
YTLD2502C

Band7 FBAR Duplexer

Description

YTLD2502C is a FBAR duplexer designed with Film Bulk Acoustic Resonator (FBAR) technology for LTE handsets, mobile routers to get good application performance.

YTLD2502C enable LTE application demanding high power handling for Transmit Port , high sensitivity for Receive Port, stringent linearity requirement and low insertion loss for high wi-fi coexistence and critical out-of-band attenuation.



8 Pin 1.8 x 1.4 x 0.61mm Package

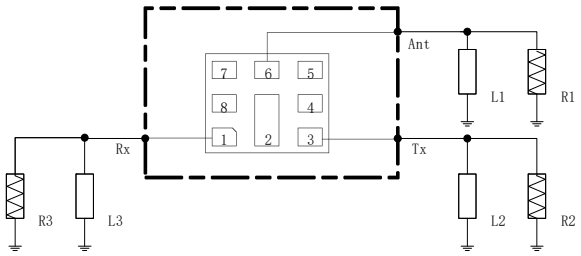
Features

- Miniature Size
  1.8 mm x 1.4 mm x 0.61 mm
- Insertion Loss:
  - Tx 2.0 dB Typ.
  - Rx 2.0 dB Typ.
- Tx-RX Isolation:
  - Tx Pass Band 50 dB Typ.
  - Rx Pass Band 56 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	1.9nH	Ideal Inductor
L2	5.6nH	Ideal Inductor
L3	3.0nH	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)	/	2.0	2.8	dB
Ripple(2500~2570MHz)	/	0.7	1.5	dB
VSWR (2500~2570MHz,*ANT Port*)	/	1.5	1.8	\
VSWR (2500~2570MHz,*TX Port*)	/	1.5	1.8	\
Absolute Attenuation(500~8000MHz)				
(500~1560MHz)	31	36	/	dB
(1565 ~1606MHz)	31	36	/	dB
(1805~1880MHz)	29	34	/	dB
(2110~2170MHz)	30	35	/	dB
(2300~2400MHz)	32	35	/	dB
(2400~2472MHz)	37	40	/	dB
(2472~2481MHz)	25	35	/	dB
(2620~2690MHz)	49	52	/	dB
(3400~3600MHz)	48	53	/	dB
(5000~5140MHz, ***2f0***)	32	37	/	dB
(5600~7200MHz)	24	31	/	dB
(7500~7710MHz, ***3f0***)	26	31	/	dB

Antenna Port to Receive Port				
Parameter (Operation Temperature: -20 to +85 ℃)	**Min**	**Typ***	**Max**	**Unit**
Insertion Loss (2620~2690MHz)	/	2.0	2.8	dB
Ripple(2620~2690MHz)	/	0.8	1.5	dB
VSWR(2620~2690MHz,ANT Port)	/	1.2	1.5	\
VSWR (2620~2690MHz,RX Port)	/	1.2	1.5	\
Absolute Attenuation(500~8000MHz)				
(500~1680MHz)	46	51	/	dB
(1710~1785MHz)	43	48	/	dB
(1920~1980MHz)	39	44	/	dB
(2400~2500MHz)	43	48	/	dB
(2500~2570MHz)	46	49	/	dB
(2750~4900MHz)	45	50	/	dB
(5240~5380MHz, ***2f0***)	34	39	/	dB
(5400~7400MHz)	14	21	/	dB
(7860~7965MHz, ***3f0***)	14	21	/	dB

Transmit Port to Receive Port				
Parameter(Operation Temperature: -20 to +85 ℃)	**Min**	**Typ***	**Max**	**Unit**
Isolation				
2500~2570MHz	47	50	/	dB
2620~2690MHz	53	56	/	dB

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

* Typical value at 25±3 ℃

Typical Performance at Tc=25℃

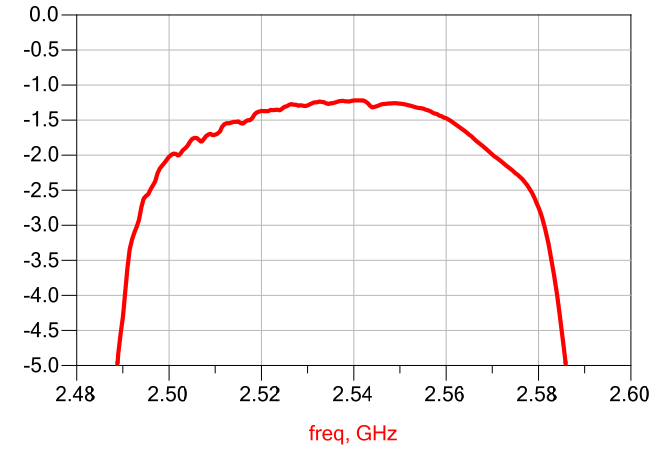


Figure1. TX-ANT Passband

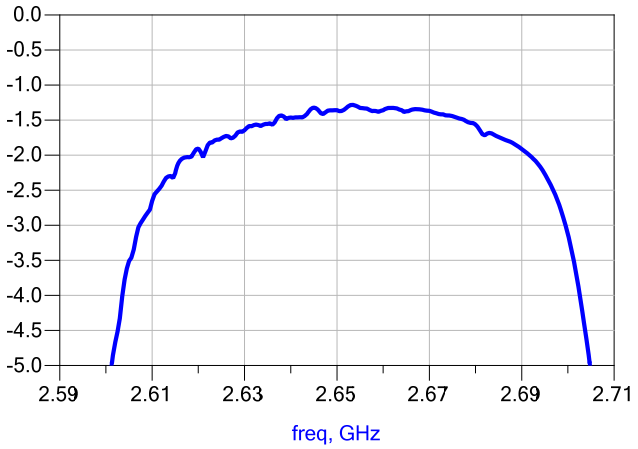


Figure2. ANT-RX Passband

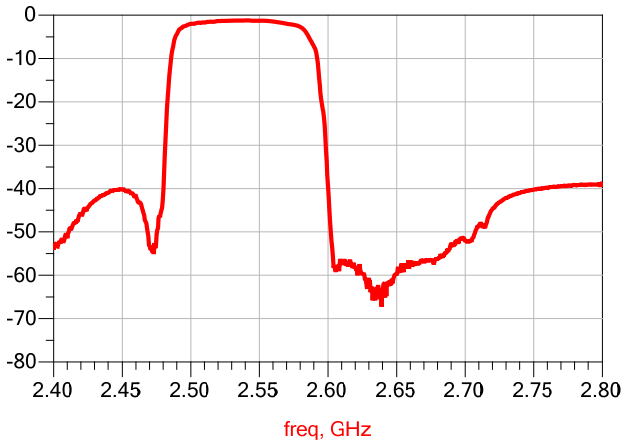


Figure3. TX-ANT

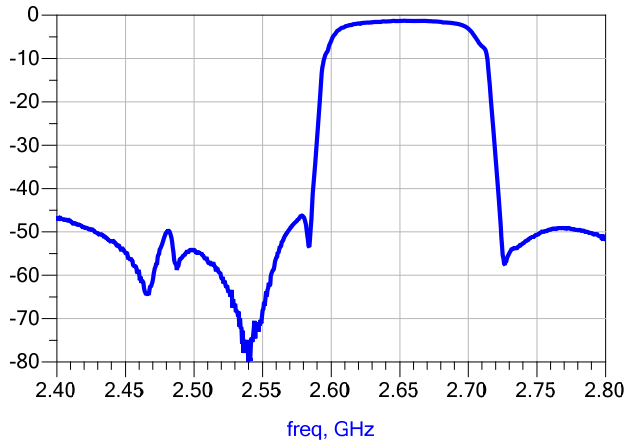


Figure4. ANT-RX

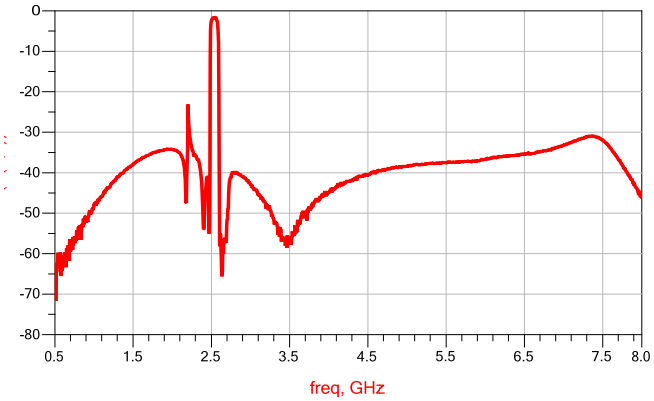


Figure5. TX-ANT Wideband

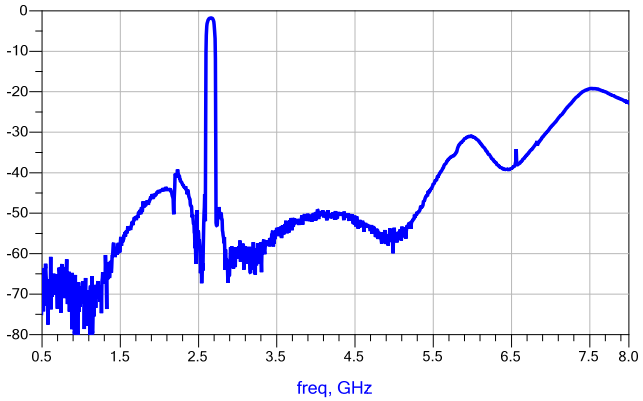


Figure6. ANT-RX Wideband

Typical Performance at Tc=25℃

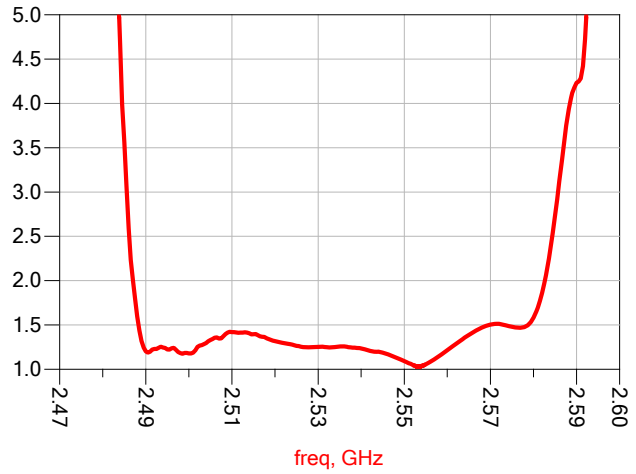


Figure7. TX Port VSWR

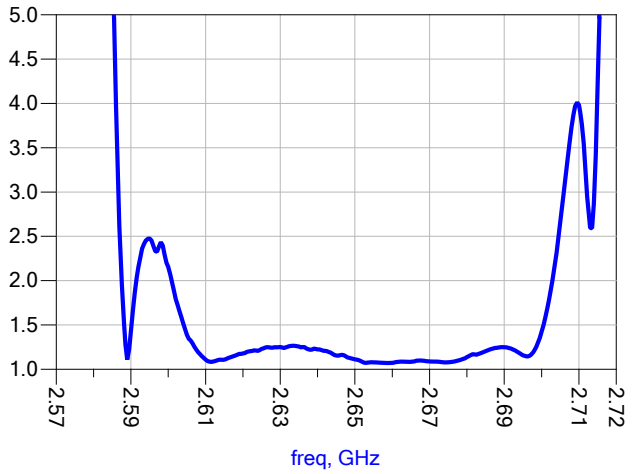


Figure8. RX Port VSWR

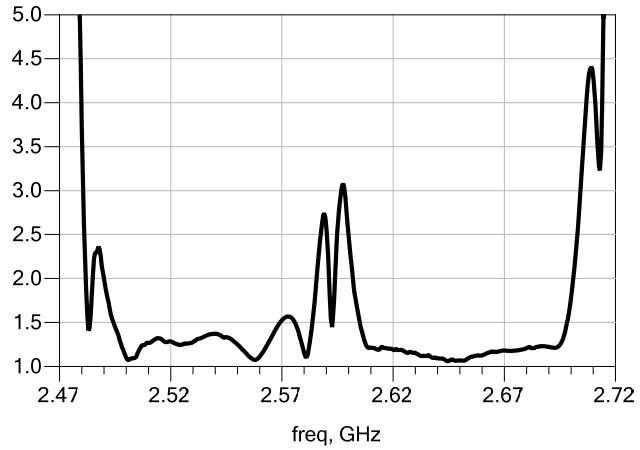


Figure9. Ant Port VSWR

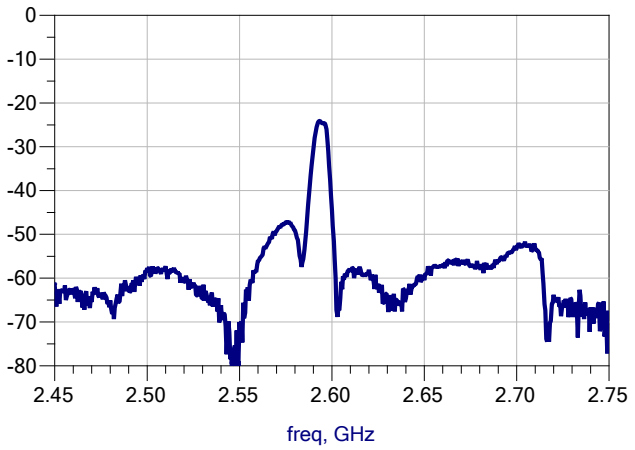


Figure10. TX - RX Isolation

Typical Performance at Tc=25℃

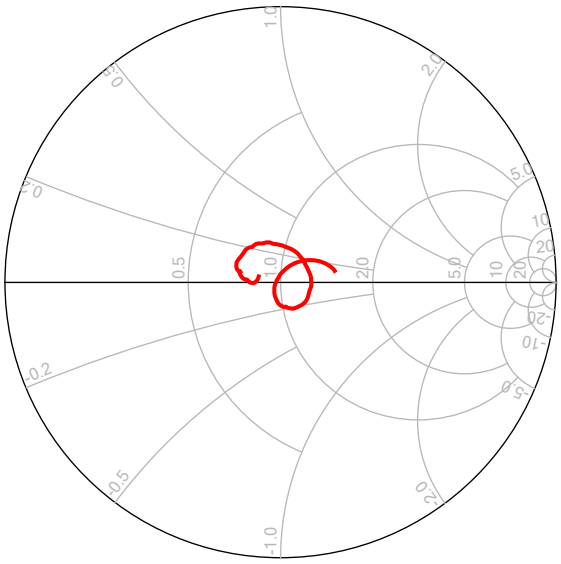


Figure11. TX Smith Chart

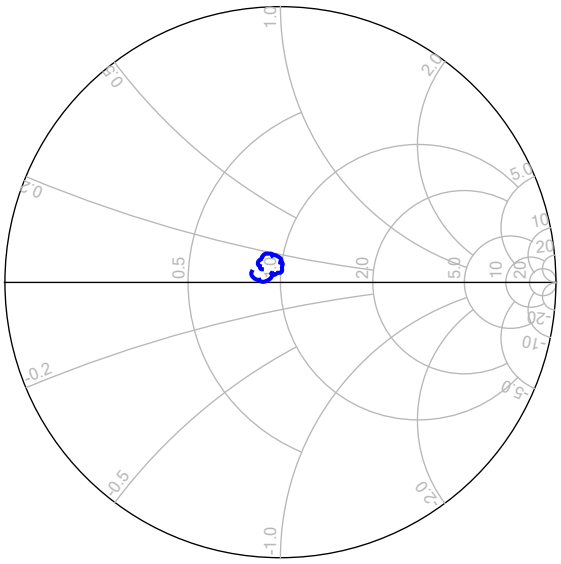


Figure12. RX Smith Chart

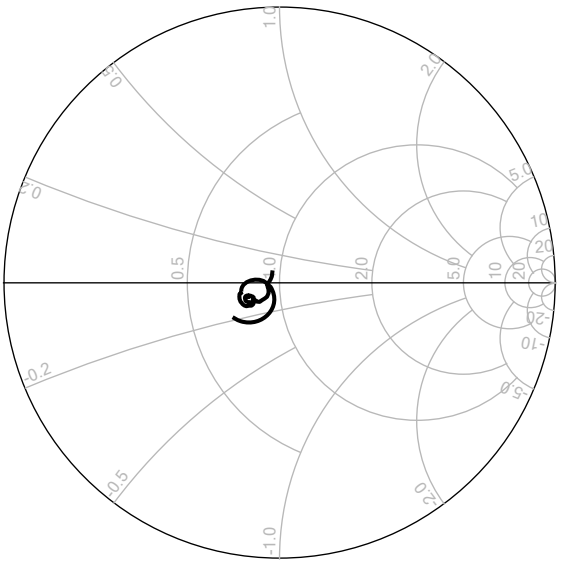


Figure13.Ant (Tx Pass Band) Smith Chart

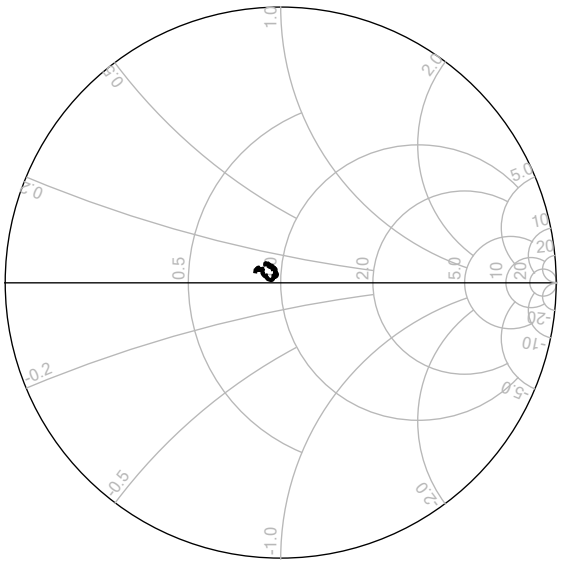
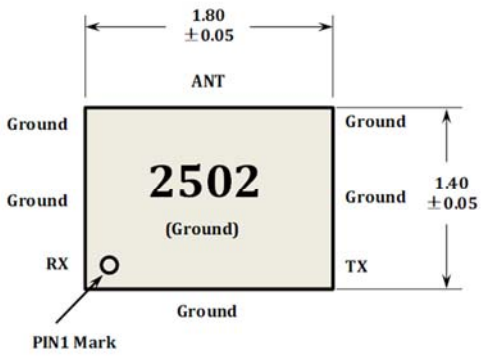
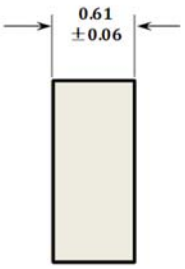
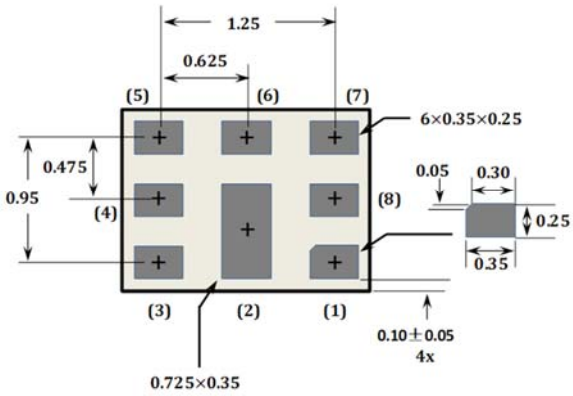


Figure14. Ant (Rx Pass Band) Smith Chart

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. 2502 is product code

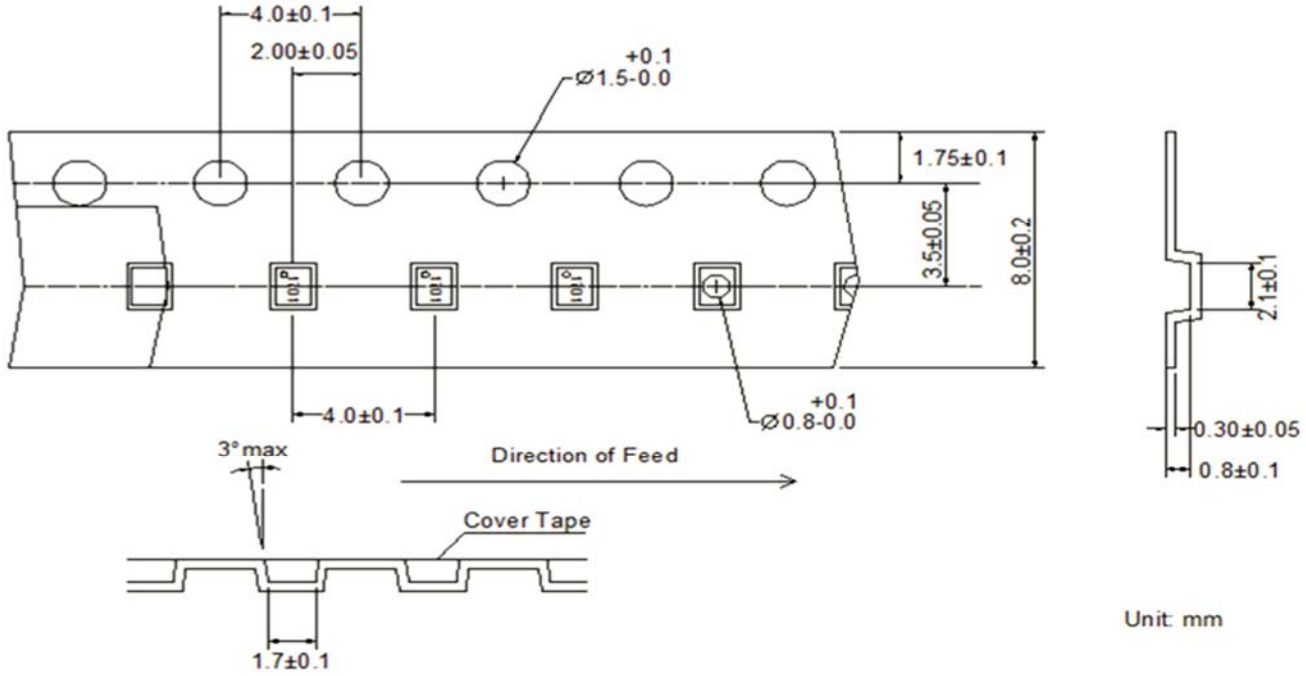
No.	Function
1	Rx
3	Tx
6	Ant
2,4,5,7,8	Ground

Order Information

P/N	Qty/Reel	Container
YTLD2502C	4000	7 inch Reel

Packing

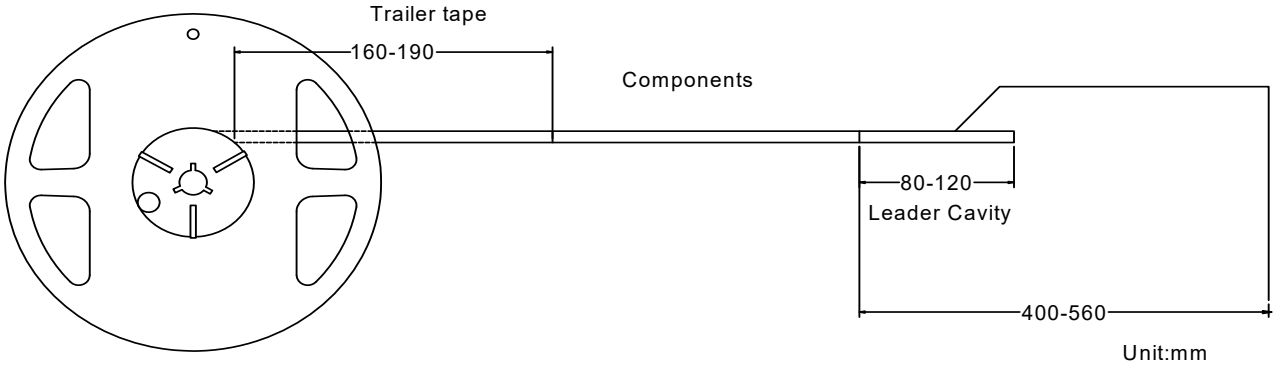
1. Tape Dimension



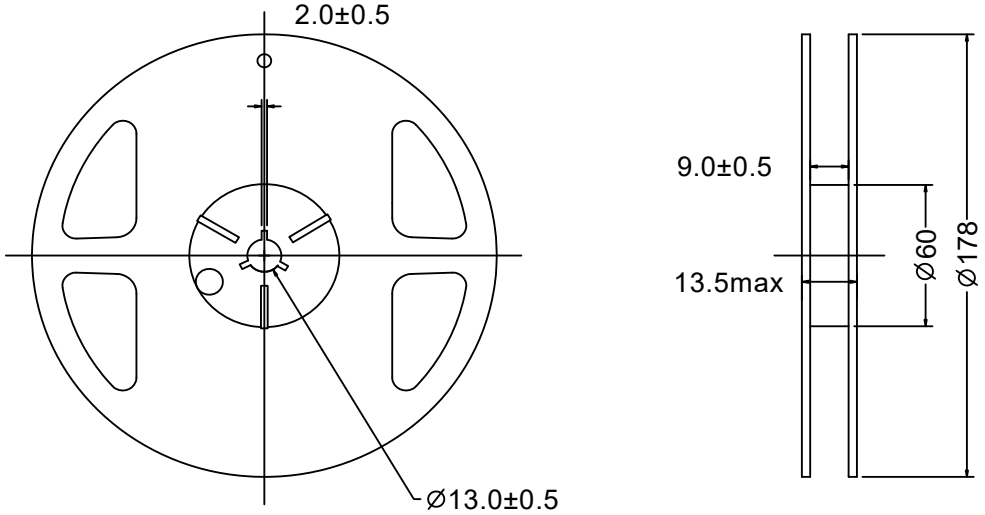
Unit: mm

2. Reel Dimension

4000Pcs/Reel



Unit:mm



Recommended Reflow Profile