

### Description

RSFD2502C is a FBAR duplexer designed with Film Bulk Acoustic Resonator (FBAR) technology for LTE handsets, mobile routers to get good application performance.

RSFD2502C 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.

### 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 58 dB Typ.  
Rx Pass Band 61 dB Typ.
- Max Power Rate: TBD
- ESD protection ability: TBD
- Moisture Sensitivity: MSL3
- Storage Temperature: -40 to +85°C
- Operable Temperature: TBD

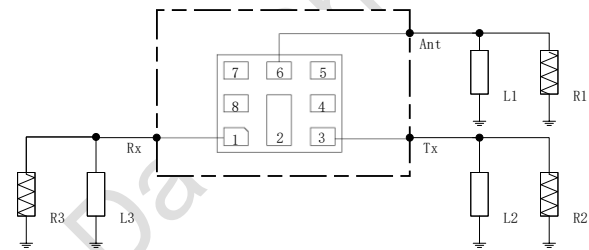
### Environmental

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



8 Pin 1.8 x 1.4 x 0.61mm Package

### 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

Operation Temperature: TBD

Parameter	Min	Typ*	Max	Unit
<b>Insertion Loss</b> (2500~2570MHz)	/	2.0	2.8	dB
<b>Ripple</b> (2500~2570MHz)	/	0.5 <sup>(1)</sup>	1.3	dB
<b>VSWR</b> (2500~2570MHz,ANT)	/	1.2	1.6	\
<b>VSWR</b> (2500~2570MHz,TX)	/	1.3	1.5	\
<b>Absolute Attenuation</b> (50~8000MHz)				
(50~1560MHz)	33	50	/	dB
(1565~1606MHz)	31	32	/	dB
(1805~1880MHz)	30	31	/	dB
(2110~2170MHz)	30	31	/	dB
(2400~2483MHz)	18	42	/	dB
(2620~2690MHz)	50	56	/	dB
(3400~3600MHz)	50	53	/	dB
(4500~5500MHz, <b>2fo</b> )	33	35	/	dB
(5600~7200MHz)	30	32	/	dB
(7200~8000MHz, <b>3fo</b> )	28	31	/	dB

#### Antenna Port to Receive Port

Operation Temperature: TBD

Parameter	Min	Typ*	Max	Unit
<b>Insertion Loss</b> (2620~2690MHz)	/	2.0	2.7	dB
<b>Ripple</b> (2620~2690MHz)	/	0.4 <sup>(1)</sup>	1.3	dB
<b>VSWR</b> (2620~2690MHz,ANT)	/	1.2	1.4	\
<b>VSWR</b> (2620~2690MHz,RX)	/	1.2	1.4	\
<b>Absolute Attenuation</b> (50~8000MHz)				
(50~1680MHz)	47	62	/	dB
(1710~1785MHz)	43	45	/	dB
(1920~1980MHz)	39	40	/	dB
(2400~2483MHz)	44	50	/	dB
(2500~2570MHz)	45	55	/	dB
(2750~4900MHz)	44	50	/	dB
(4900~5900MHz, <b>2fo</b> )	30	40	/	dB
(5900~7400MHz)	19	29	/	dB
(7400~8000MHz, <b>3fo</b> )	17	19	/	dB

Operation Temperature: **TBD**

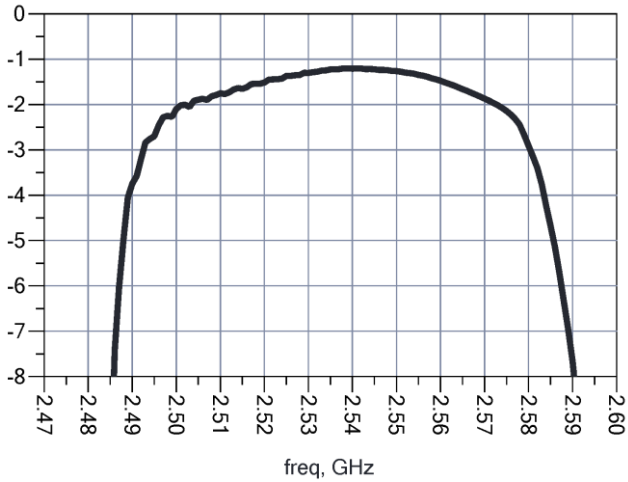
Parameter	Min	Typ*	Max	Unit
<b>Transmit Port to Receive Port</b>				
<b>Isolation</b>				
2500~2570MHz	48	61	/	dB
2620~2690MHz	53	58	/	dB

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

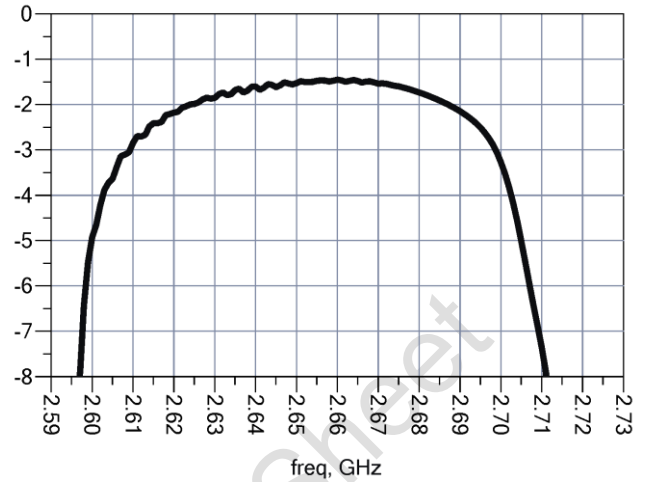
(1) Data is the integrated Max value of the linear S-parameter over 5MHz.

ROFS Preliminary Data Sheet

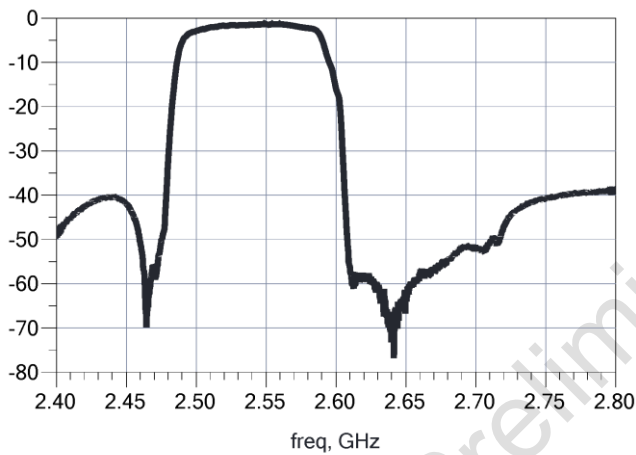
### Typical Performance at Tc=25°C



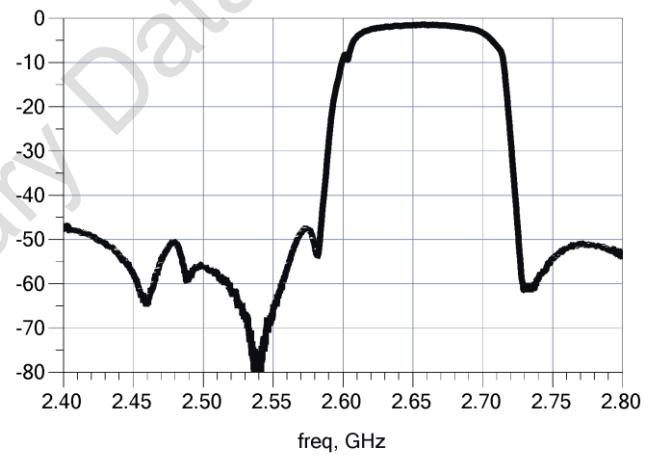
**Figure1. TX-ANT Passband**



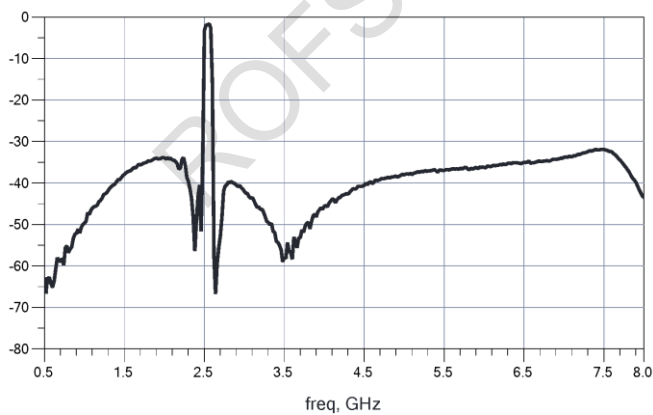
**Figure2. ANT-RX Passband**



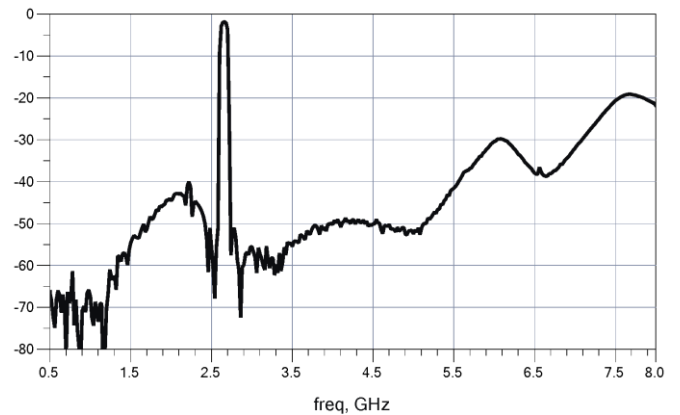
**Figure3. TX-ANT**



**Figure4. ANT-RX**

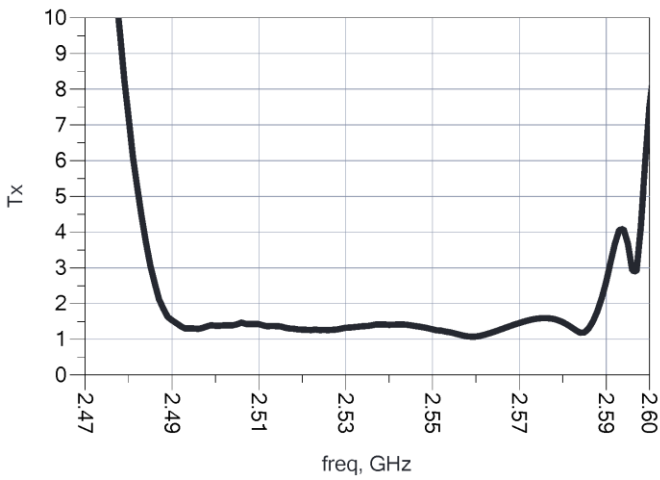


**Figure5. TX-ANT Wideband**

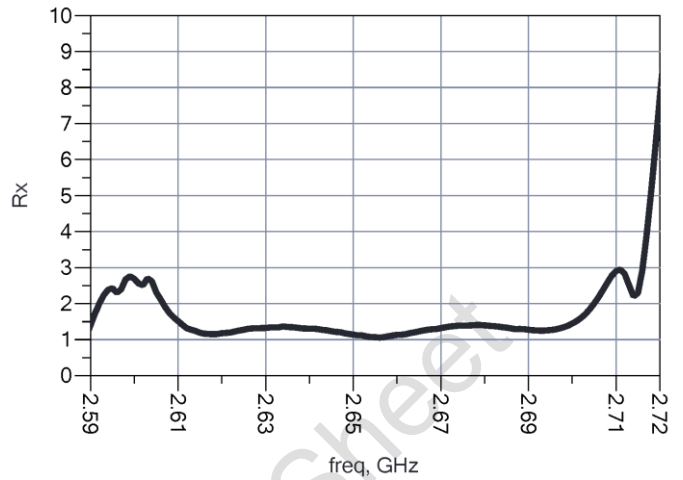


**Figure6. ANT-RX Wideband**

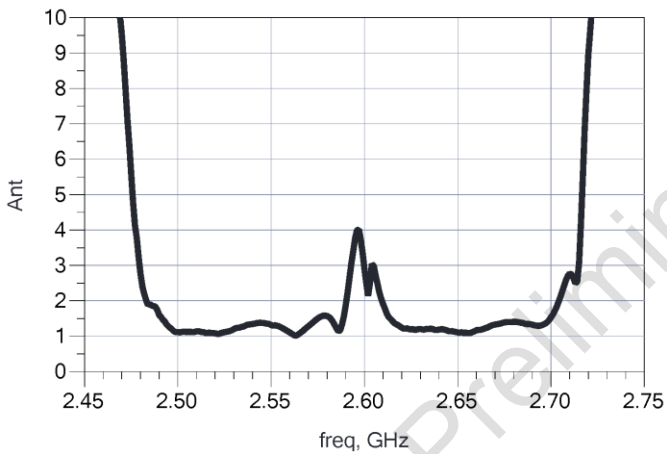
### Typical Performance at Tc=25°C



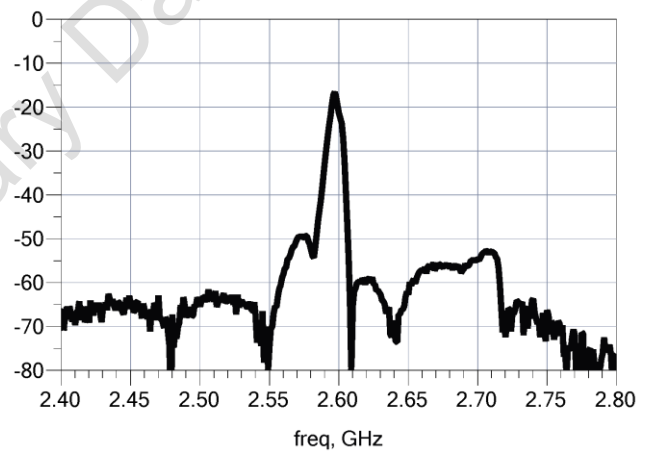
**Figure7. TX Port VSWR**



**Figure8. RX Port VSWR**

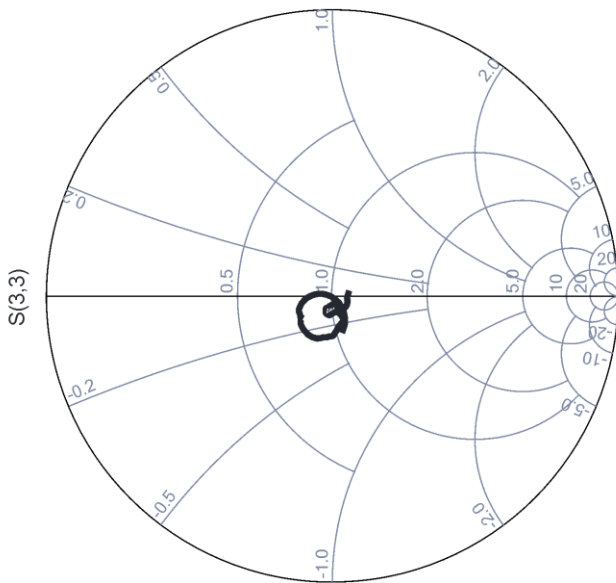


**Figure9. Ant Port VSWR**



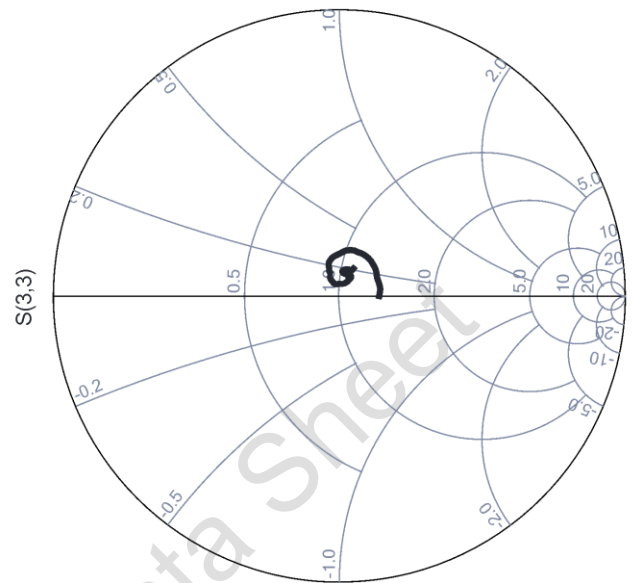
**Figure10. TX - RX Isolation**

### Typical Performance at Tc=25°C



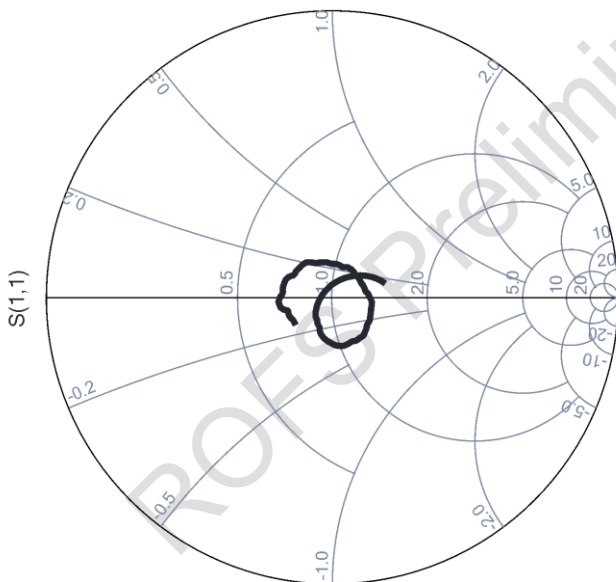
freq (2.500GHz to 2.570GHz)

**Figure11. TX Smith Chart**



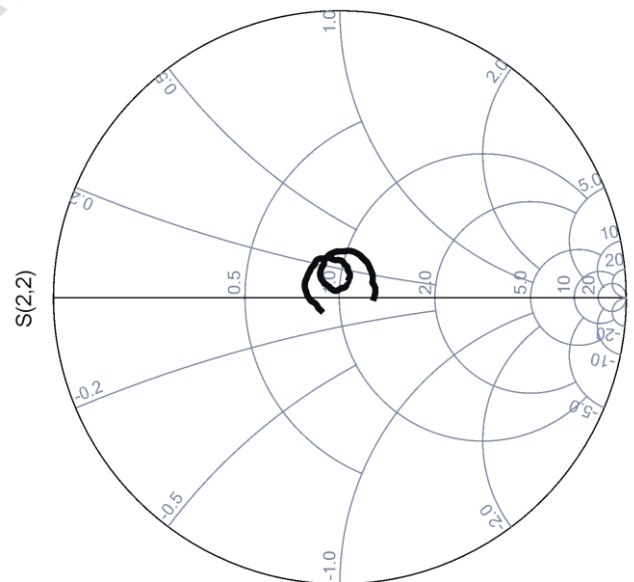
freq (2.620GHz to 2.690GHz)

**Figure12. RX Smith Chart**



freq (2.500GHz to 2.570GHz)

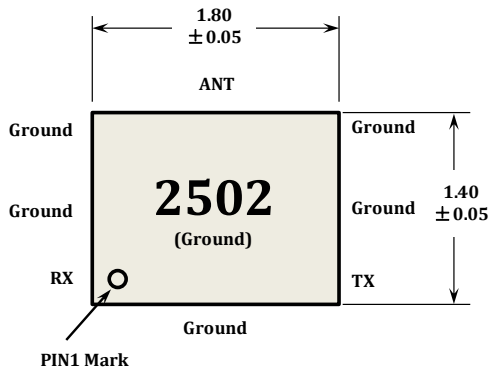
**Figure13.Ant (Tx Pass Band) Smith Chart**



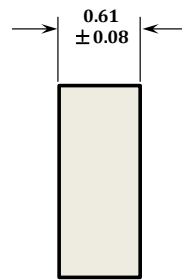
freq (2.620GHz to 2.690GHz)

**Figure14. Ant (Rx Pass Band) Smith Chart**

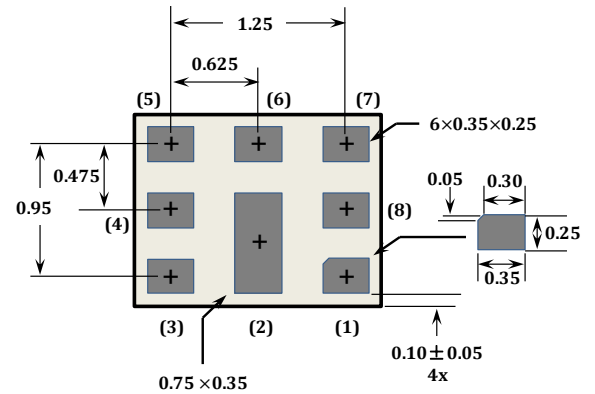
### Pac kage Outline



**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

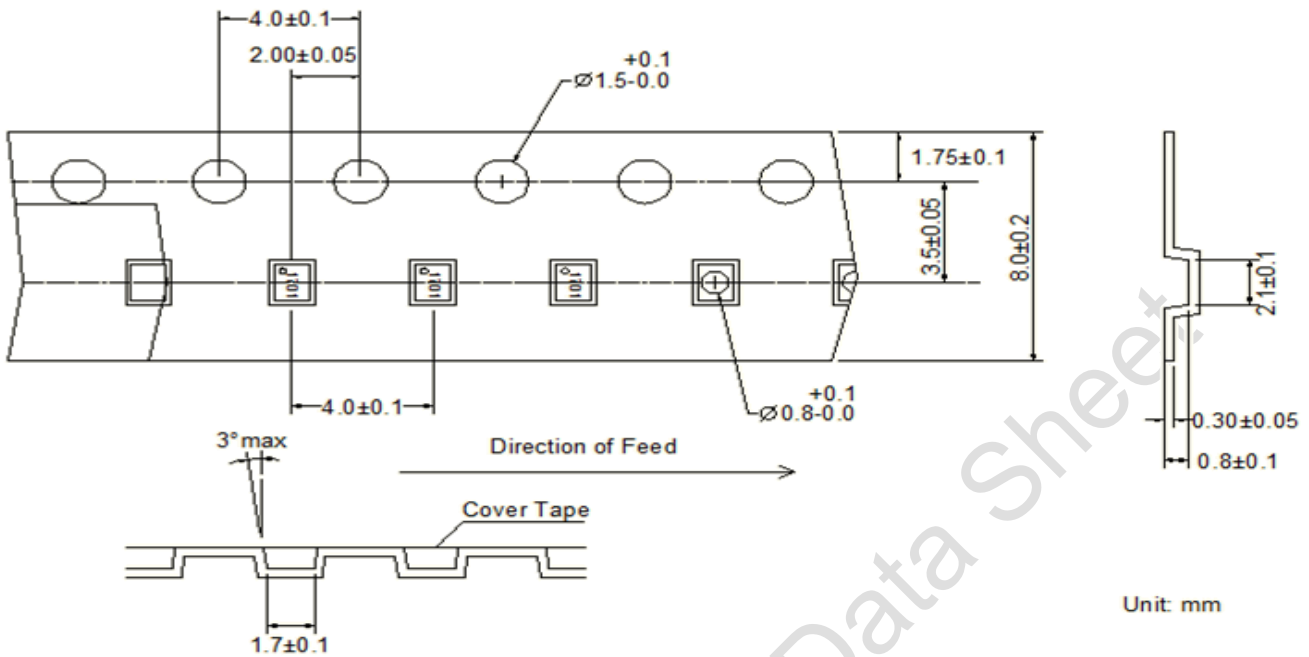
No.	Function
1	Rx
3	Tx
6	Ant
2,4,5,7,8	Ground

### Order Information

P/N	Qty/Reel	Container
RSFD2502C	4000	7 inch Reel

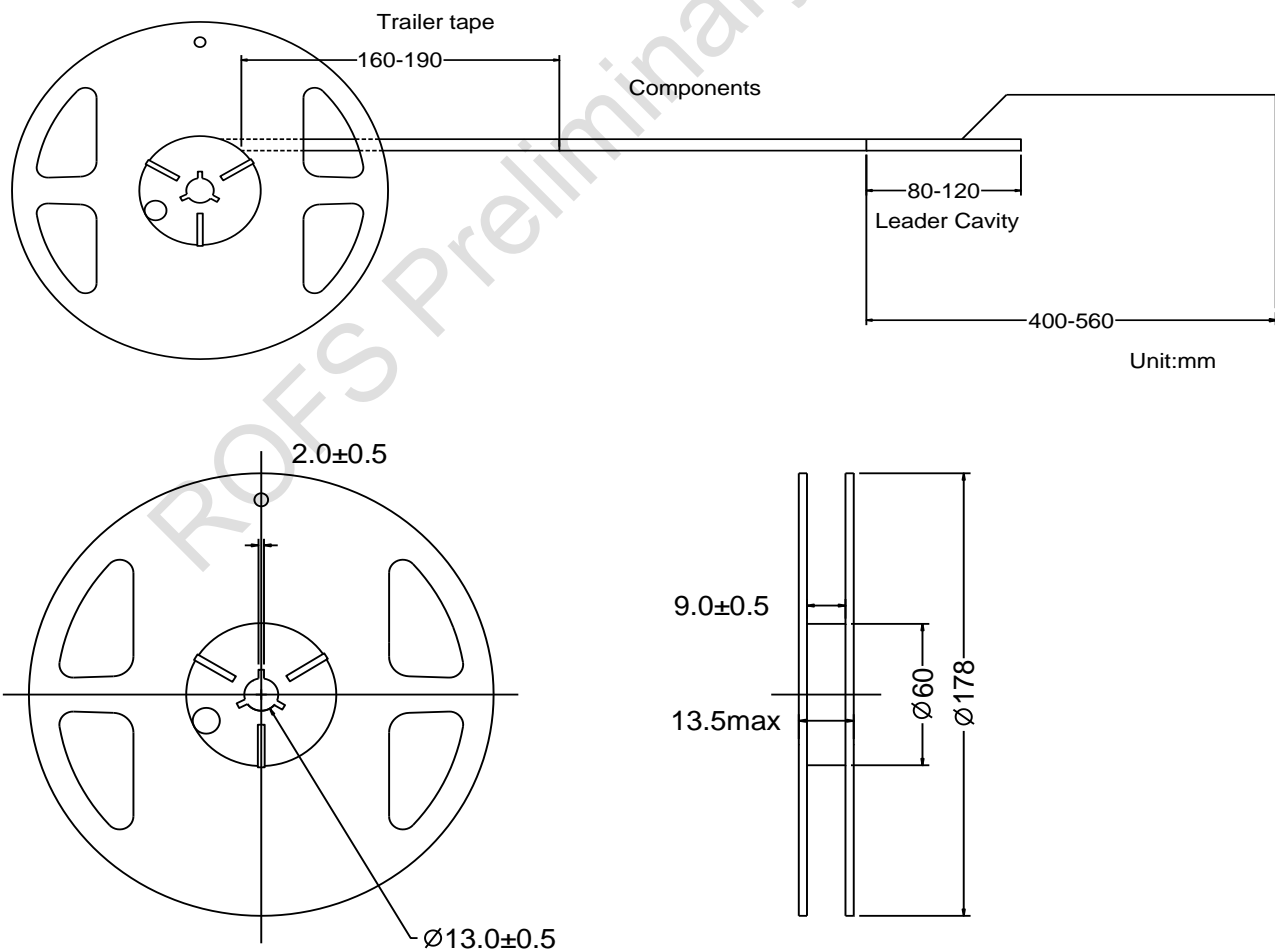
### Packing

#### 1. Tape Dimension



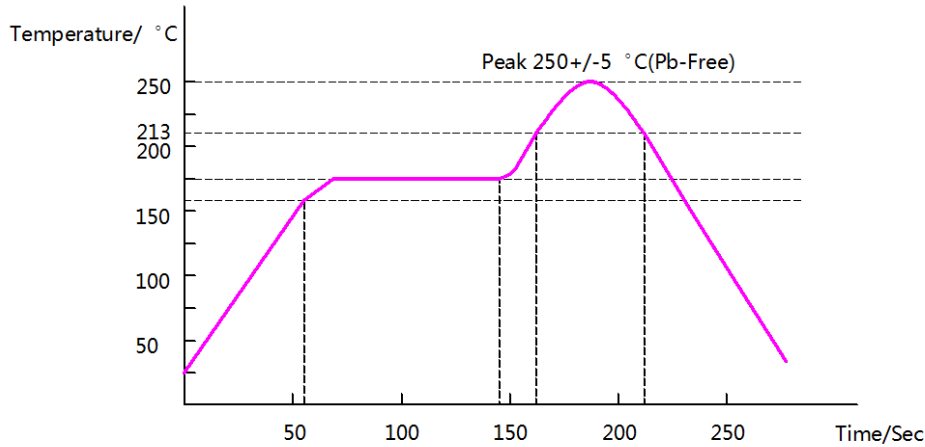
#### 2. Reel Dimension

4000Pcs/Reel





**Recommended Reflow Profile**



For more information, please contact: [sales@rofsmicro.com](mailto:sales@rofsmicro.com)

**Notes:**

The specification may be changed or the product had been discontinued, please check with our sales or product engineer before order.

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