

Product Description

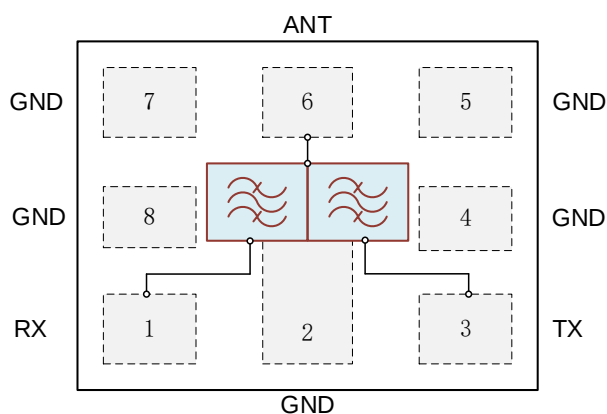
The NS93207B is a high-performance, Bulk Acoustic Wave (BAW) Duplexer for LTE B7 application with low insertion loss and high isolation.

The NS93207B uses CSP techniques to achieve the industry advanced 1.6 x 1.2 mm footprint and 0.55 mm typical height. The duplexer exhibits excellent power handling capabilities.

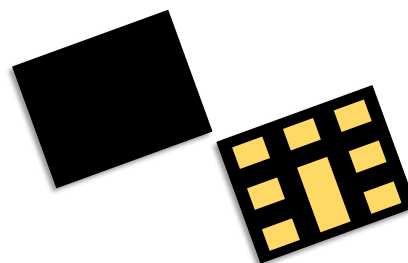
Applications

- LTE/NR Band7 Duplexer Application

Functional Block Diagram



Top Thru View



Product Features

- Low Insertion Loss
- High Isolation
- Standard Size: 1.6 x 1.2 mm
- Operating Temperature -30 to +85°C
- Single Ended Operation
- RoHS2.0 Compliant, Halogen Free
Pb-free Module Package, MSL3

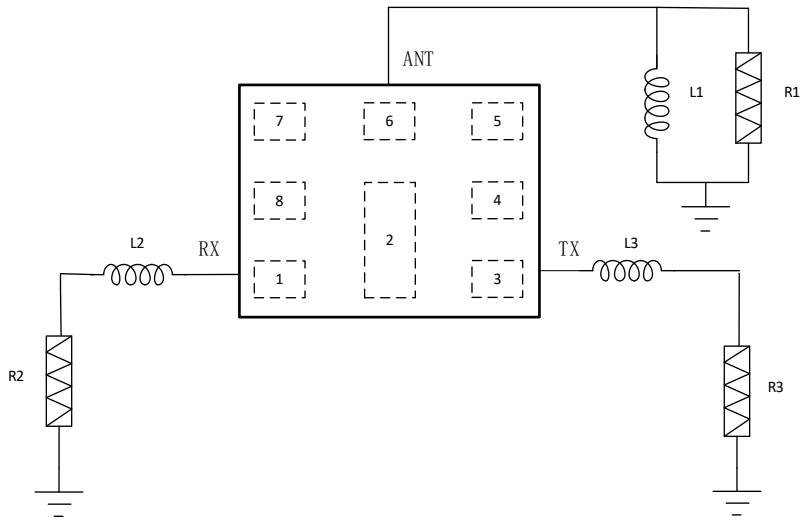
Ordering Information

Part No.	Description
NS93207B	Packaged Part
NS93207B-EVB	Evaluation Board

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40°C ~ +85°C
Operating Temperature	-30°C ~ +85°C
RF Input Power	+30dBm, +55°C for 5000 hours
Maximum DC Voltage	3 V

Testing Circuit (Top Thru View)



R1	50ohm
R2	50ohm
R3	50ohm
L1*	3.8nH
L2*	1.7nH
L3*	1.2nH
Pin1	RX
Pin3	TX
Pin6	ANT
Pin2/4/5/7/8	GND

*Ideal Value

Electrical Specifications (TX)

ANT Terminating Condition: 50Ω // 3.8 nH
TX Terminating Condition: 50Ω + 1.2 nH
RX Terminating Condition: 50Ω + 1.7 nH

Parameter	Frequency	Min.	Typ. ^[a]	Max.	Unit	Note
		-30°C to +85°C				
Insertion Loss	2500 to 2570 MHz		1.8	1.9	dB	
Ripple ^[b]	2500 to 2570 MHz		0.9	1.1	dB	
VSWR_TX	2500 to 2570 MHz		1.7	1.8		
VSWR_ANT	2500 to 2570 MHz		1.6	1.8		
Attenuation	617 to 960 MHz	50	54		dB	
	1225 to 1606 MHz	43	47		dB	
	1606 to 1710 MHz	43	47		dB	
	1710 to 1785 MHz	43	47		dB	B3 TX
	1805 to 1880 MHz	43	47		dB	B3 RX
	1920 to 1980 MHz	44	48		dB	B1 TX
	2110 to 2200 MHz	45	51		dB	
	2401 to 2468 MHz	25	32		dB	
	2620 to 2690 MHz	55	59		dB	B7 RX
	5000 to 5140 MHz	42	46		dB	2fo
	7500 to 7710 MHz	28	29		dB	3fo

[a]. Typical data is the worst value of the parameter over the indicated band at +25°C.

[b]. Ripple is the difference between the max and min value in passband.

Electrical Specifications (RX)

ANT Terminating Condition: 50Ω // 3.8 nH
TX Terminating Condition: 50Ω + 1.2 nH
RX Terminating Condition: 50Ω + 1.7 nH

Parameter	Frequency	Min.	Typ. ^[a]	Max.	Unit	Note
		-30°C to +85°C				
Insertion Loss	2620 to 2690 MHz		1.7	1.8	dB	
Ripple ^[b]	2620 to 2690 MHz		0.8	1.0	dB	
VSWR_RX	2620 to 2690 MHz		1.7	1.9		
VSWR_ANT	2620 to 2690 MHz		1.8	1.9		
Attenuation	617 to 960 MHz	60	64		dB	
	1710 to 1785 MHz	60	65		dB	
	1920 to 1980 MHz	60	64		dB	B1 TX
	2401 to 2483 MHz	49	53		dB	2.4G WIFI
	2500 to 2570 MHz	50	55		dB	B7 TX
	3300 to 4200 MHz	43	47		dB	N77
	4400 to 5000 MHz	43	48		dB	N79

[a]. Typical data is the worst value of the parameter over the indicated band at +25°C.
[b]. Ripple is the difference between the max and min value in passband.

Electrical Specifications (Isolation)

ANT Terminating Condition: 50Ω // 3.8 nH
TX Terminating Condition: 50Ω + 1.2 nH
RX Terminating Condition: 50Ω + 1.7 nH

Parameter	Frequency	Min.	Typ.	Max.	Unit	Note
		-30°C to +85°C				
Isolation	2500 to 2570 MHz	57	59		dB	
	2620 to 2690 MHz	57	58		dB	

Typical TX to ANT Transmission Coefficient (+25°C)

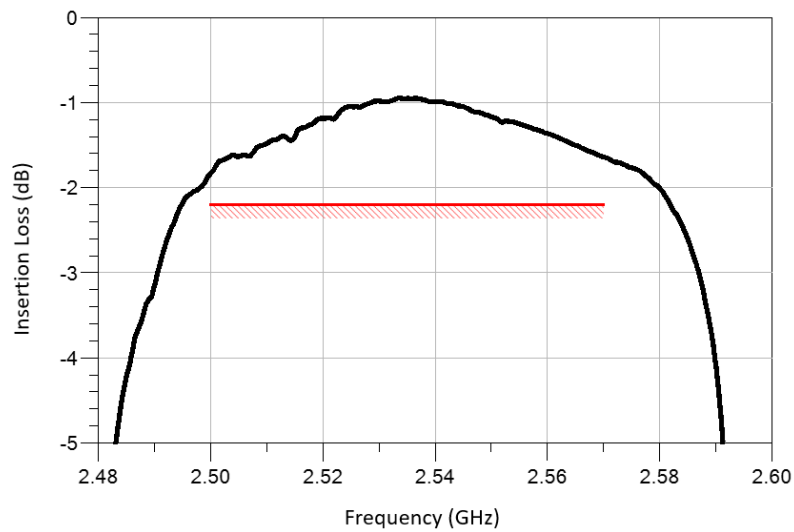


Figure 1. TX Passband Insertion Loss, 2500 – 2570 MHz

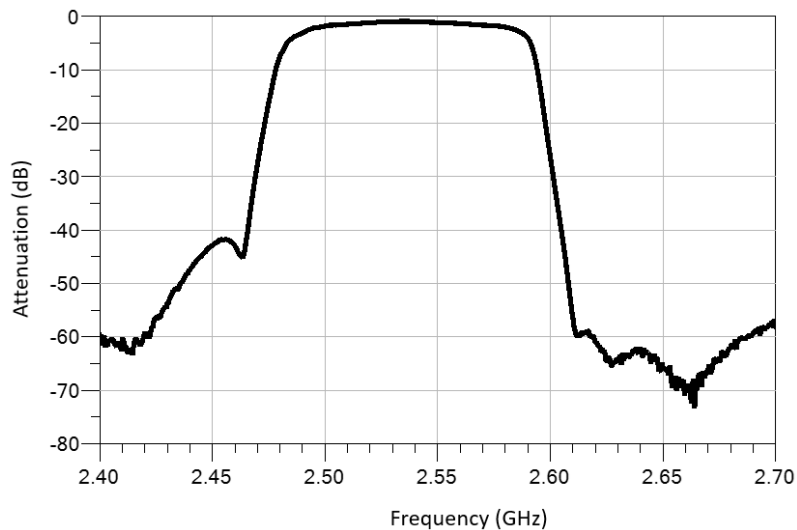


Figure 2. TX Narrow Band Attenuation, 2400 – 2700 MHz

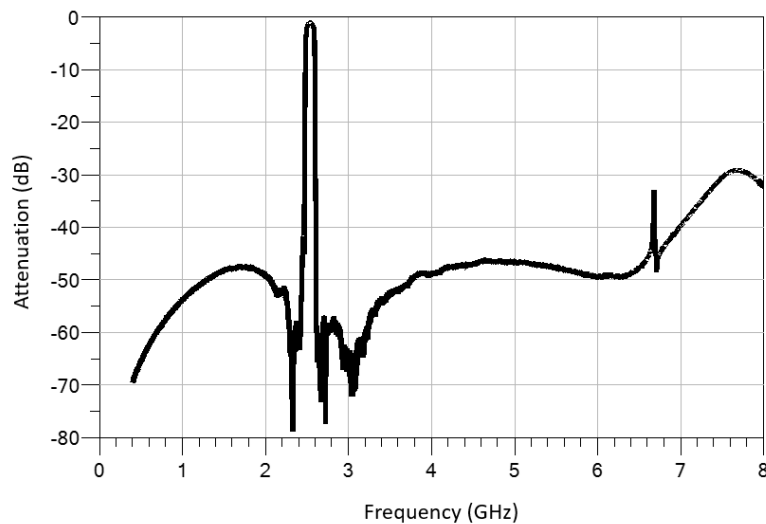


Figure 3. TX Wide Band Attenuation, 400 – 8000 MHz

Typical ANT to RX Transmission Coefficient (+25°C)

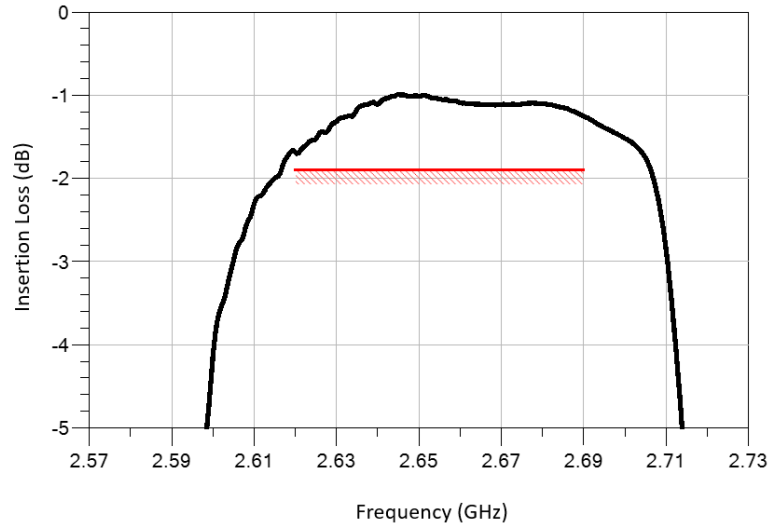


Figure 4. RX Passband Insertion Loss, 2620 – 2690 MHz

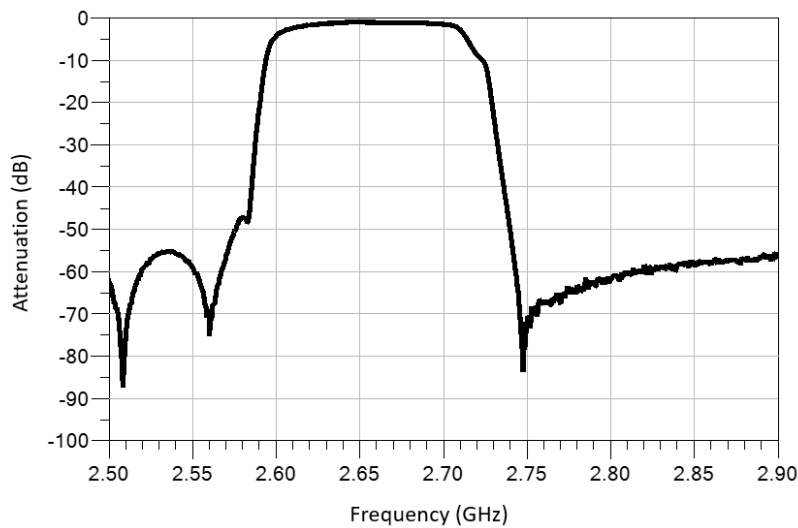


Figure 5. RX Narrow Band Attenuation, 2500 – 2900 MHz

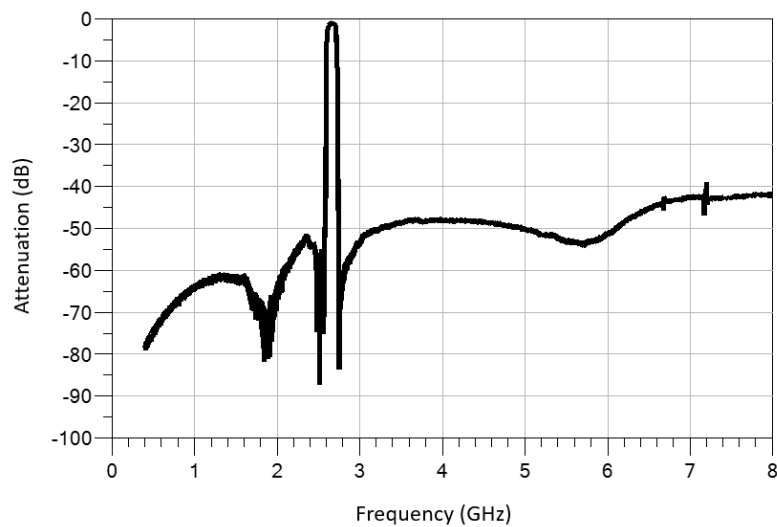


Figure 6. RX Wide Band Attenuation, 400 – 8000 MHz

Typical Isolation (+25°C)

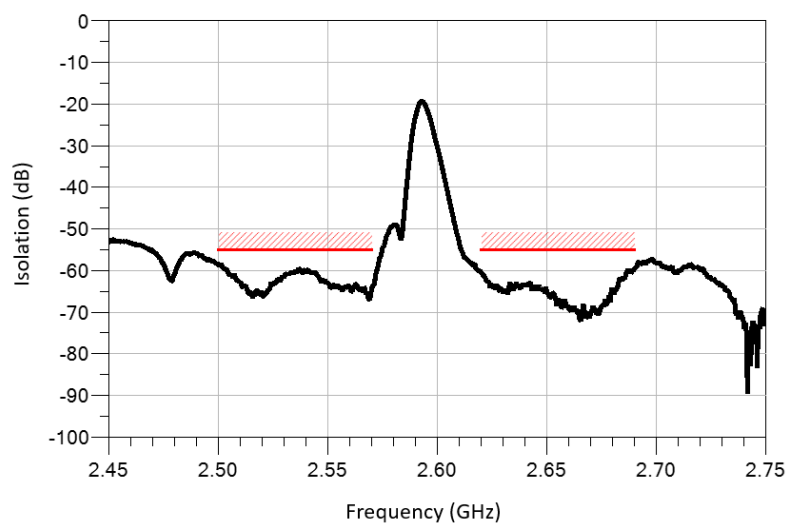
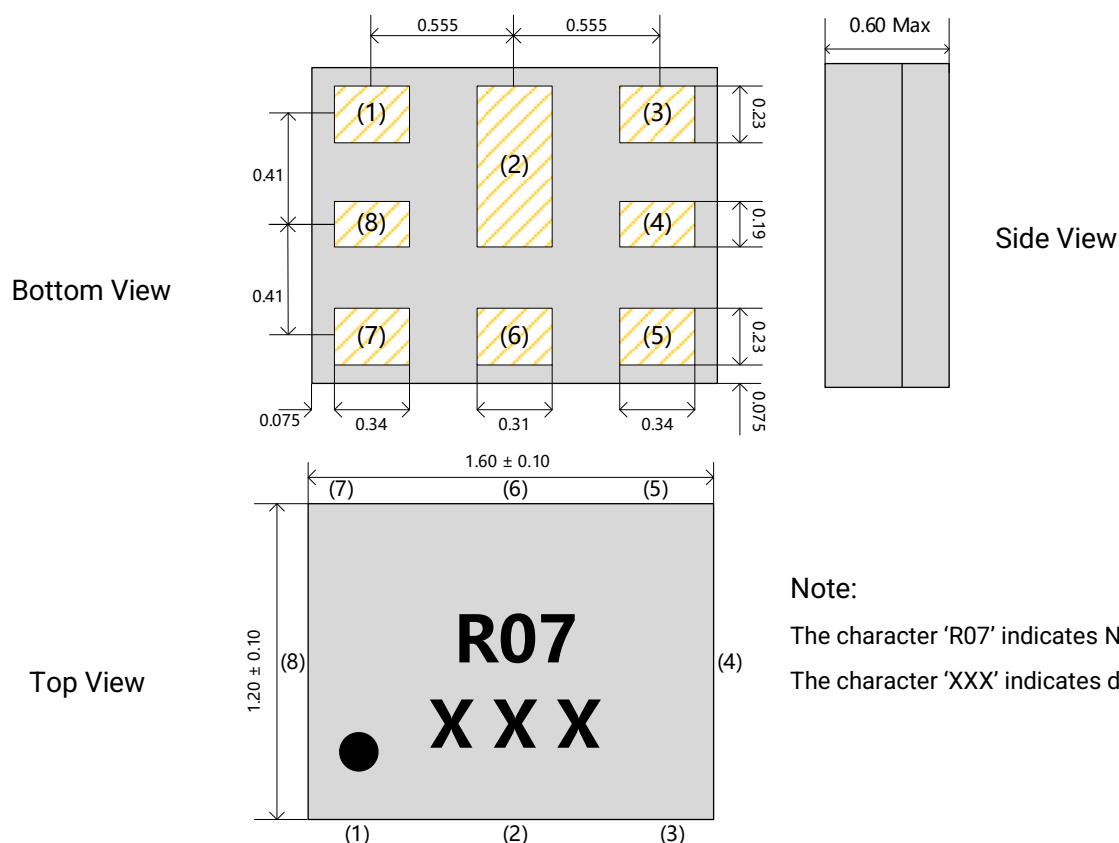
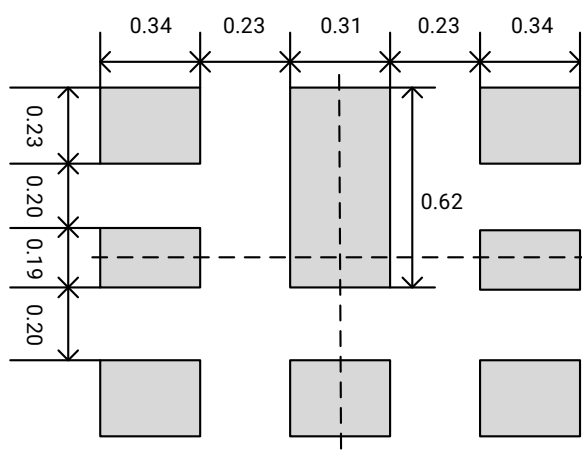


Figure 7. Isolation, 2500 – 2690 MHz

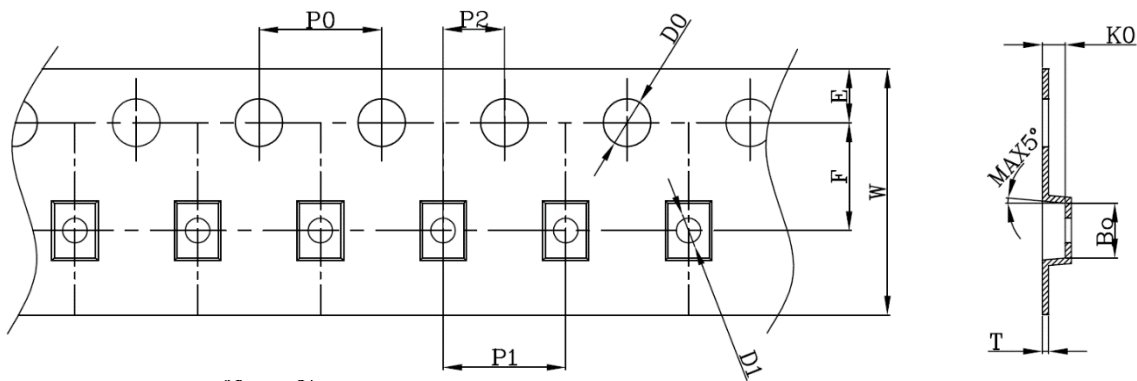
Package & Dimensions (Unit: mm)



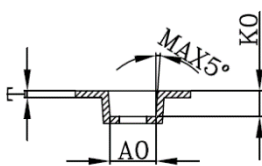
PCB Mounting Pattern (Unit: mm)



Tape and Reel Information (Unit: mm)



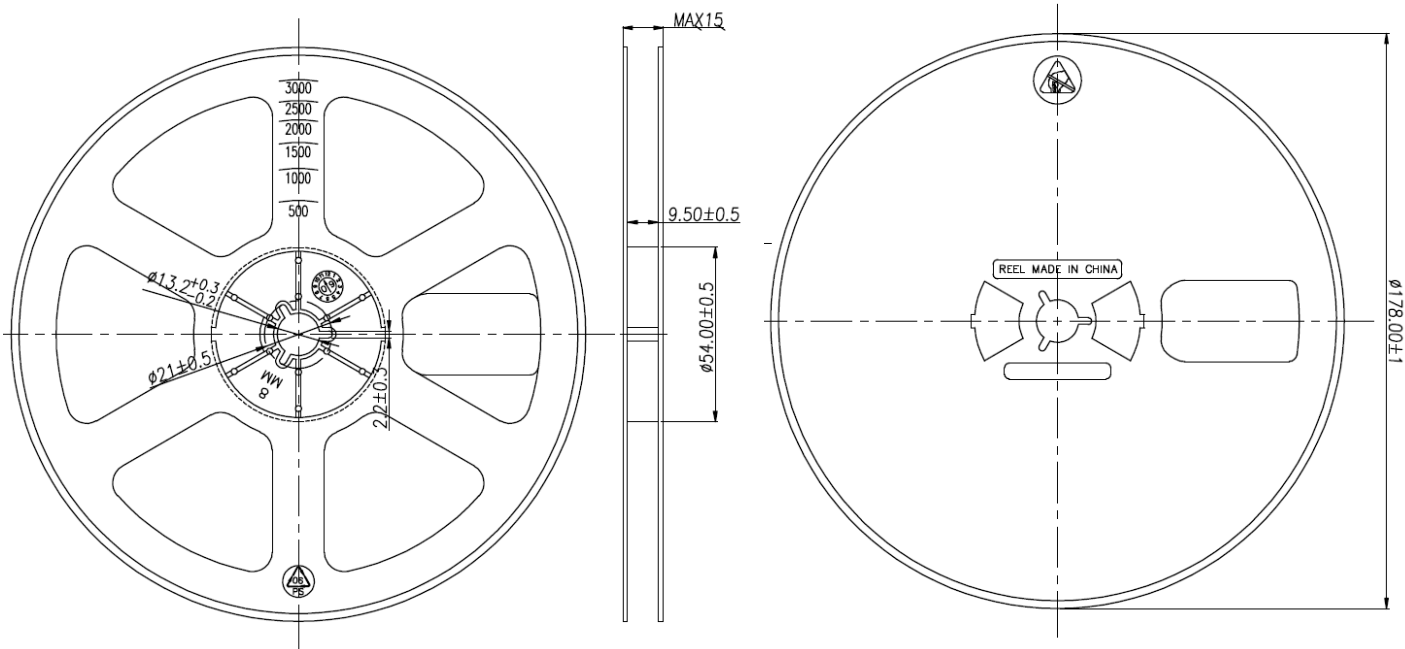
A0	B0	K0	P0	P1	P2
1.35±0.05	1.78±0.05	0.70±0.05	4.00±0.10	4.00±0.10	2.00±0.05
T	E	F	D0	D1	W
0.20±0.05	1.75±0.05	3.50±0.05	1.55±0.05	0.80±0.10	8.00±0.10



Note:

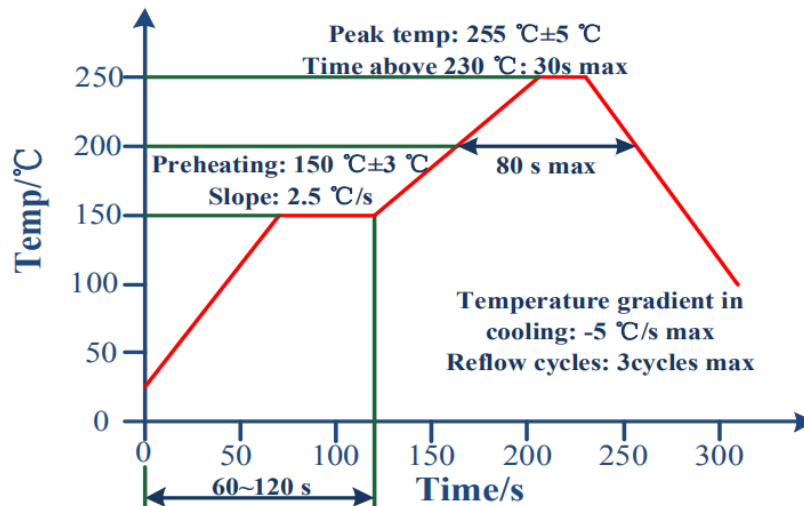
- (1) Black antistatic composite PC.
- (2) Cumulative tolerance of 10 sprocket holes is ± 0.20 .
- (3) All dimensions meet EIA-481-E requirements.
- (4) The sector of 250mm straps shall not exceed 2mm.

Reel



Reeling Quantity: 5000 PCS / Reel

Recommended IR Reflow Profile



Important Notes

1. All data or information contained herein are subject to change without prior notice. Please contact NEWSONIC for verifying details of product specification before ordering NEWSONIC product.
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