

Product Description

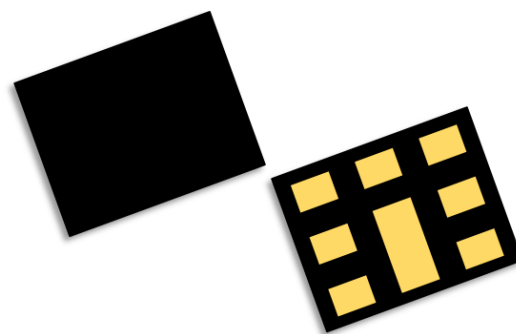
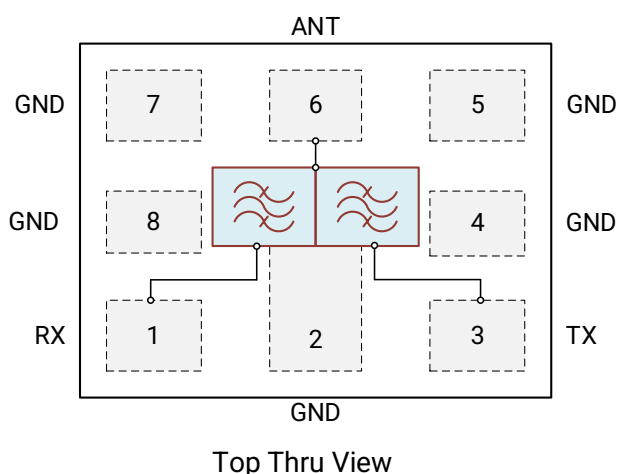
The NS73208A is a high-performance, Surface Acoustic Wave (SAW) Duplexer for LTE B8 application with low insertion loss and high isolation.

The NS73208A 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

- Band8 TRX Application

Functional Block Diagram



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

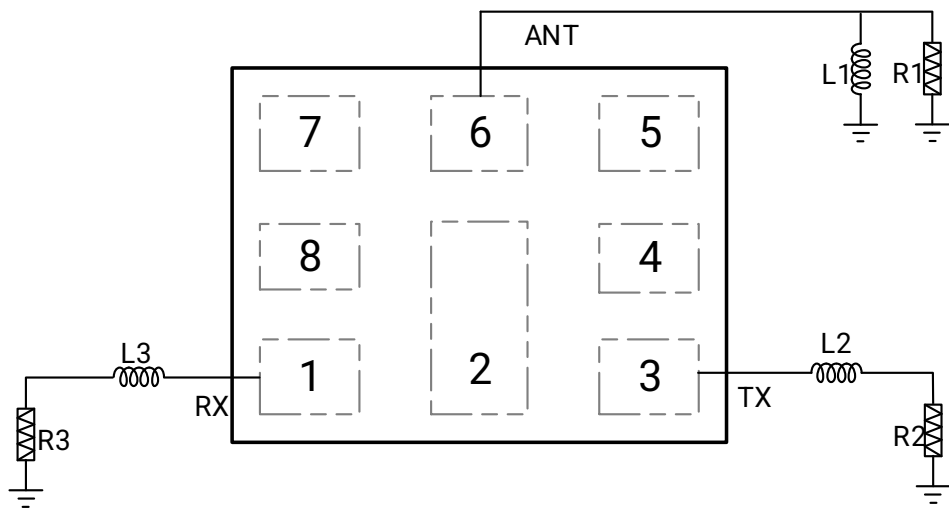
Ordering Information

Part No.	Description
NS73208A	Packaged Part
NS73208A_EVB	Evaluation Board

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40°C ~ +85°C
Operating Temperature	-30°C ~ +85°C
RF Input Power	+30dBm, +50°C for 5000 hours
Maximum DC Voltage	3 V

Testing Circuit (Top Thru View)



R1	50 ohm
R2	50 ohm
R3	50 ohm
L1*	7.5 nH
L2*	7.5 nH
L3*	6.2 nH
Pin1	RX
Pin3	TX
Pin6	ANT
Pin 2/4/5/7/8	GND

*Ideal value

Electrical Specifications (TX)

Temperature Range for Specification: Tc = -30 ~ +85 °C

ANT Terminating Condition: 50Ω // 7.5 nH

TX Terminating Condition: 50Ω + 7.5 nH

RX Terminating Condition: 50Ω + 6.2 nH

Parameter	Frequency	Min.	Typ. ^[a]	Max.	Unit	Note
		-30°C to +85°C				
Insertion Loss	880 to 915 MHz		1.4	1.8	dB	
Ripple ^[b]	880 to 915 MHz		1.0	1.5	dB	
VSWR_TX	880 to 915 MHz		1.7	1.8		
VSWR_ANT	880 to 915 MHz		1.6	1.7		
Attenuation	450 to 716 MHz	34	35		dB	
	716 to 728 MHz	33	34		dB	
	728 to 793 MHz	30	34		dB	
	832 to 862 MHz	36	37		dB	B20 TX
	925 to 960 MHz	50	52		dB	B8 RX
	1559 to 1606 MHz	35	36		dB	
	1680 to 1830 MHz	38	39		dB	
	1805 to 1880 MHz	41	42		dB	
	1920 to 1980 MHz	43	44		dB	B1 TX
	2110 to 2200 MHz	45	46		dB	B1 RX
	2400 to 2500 MHz	45	46		dB	2.4G WIFI
	2620 to 2745 MHz	47	48		dB	
	3520 to 3660 MHz	56	57		dB	
	4400 to 4575 MHz	55	56		dB	
	4900 to 5950 MHz	52	53		dB	

[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)

Temperature Range for Specification: Tc = -30 ~ +85 °C

ANT Terminating Condition: 50Ω // 7.5 nH

TX Terminating Condition: 50Ω + 7.5 nH

RX Terminating Condition: 50Ω + 6.2 nH

Parameter	Frequency	Min.	Typ. ^[a]	Max.	Unit	Note
		-30°C to +85°C				
Insertion Loss	925 to 960 MHz		2.0	2.5	dB	
Ripple ^[b]	925 to 960 MHz		1.0	1.5	dB	
VSWR_RX	925 to 960 MHz		1.9	2.1		
VSWR_ANT	925 to 960 MHz		2.2	2.5		
Attenuation	450 to 880 MHz	45	48		dB	
	880 to 915 MHz	50	52		dB	B8 TX
	1427 to 1448 MHz	50	51		dB	
	1710 to 1980 MHz	55	56		dB	
	2300 to 2690 MHz	56	57		dB	
	2400 to 2500 MHz	56	57		dB	2.4G WIFI
	4900 to 5950 MHz	58	59		dB	5G WIFI

[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)

Temperature Range for Specification: Tc = -30 ~ +85 °C

ANT Terminating Condition: 50Ω // 7.5 nH

TX Terminating Condition: 50Ω + 7.5 nH

RX Terminating Condition: 50Ω + 6.2 nH

Parameter	Frequency	Min.	Typ.	Max.	Unit	Note
		-30°C to +85°C				
Isolation	880 to 915 MHz	51	54		dB	
	925 to 960 MHz	51	55		dB	

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

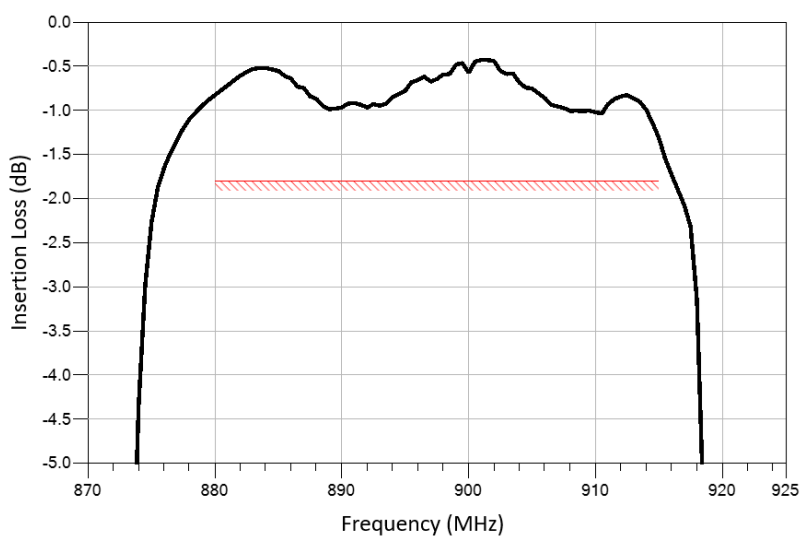


Figure 1. Passband Insertion Loss, 880 – 915 MHz

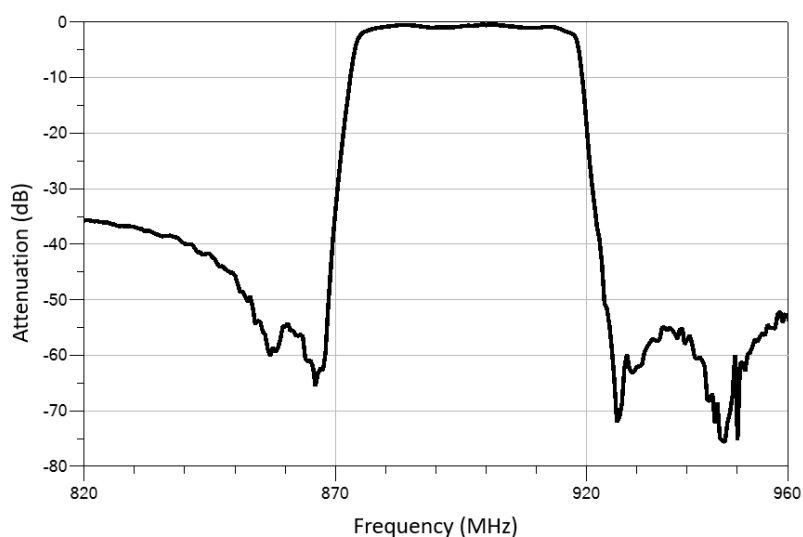


Figure 2. Narrow Band Attenuation, 820 – 960MHz

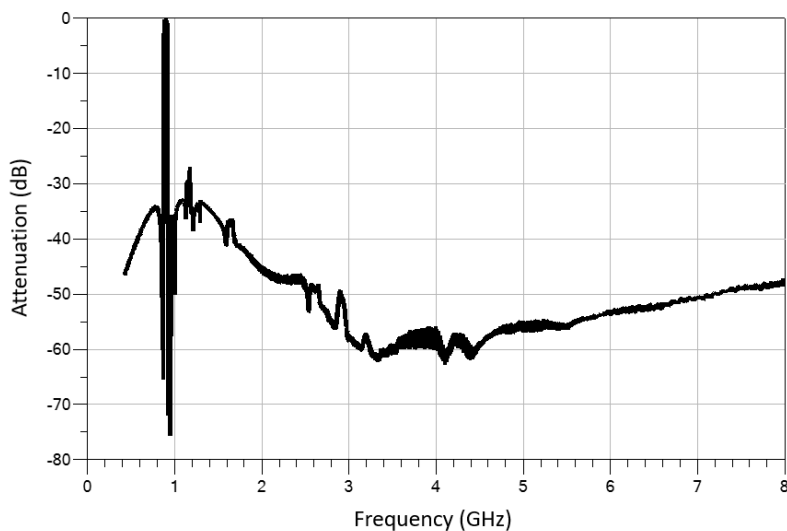


Figure 3. Wide Band Attenuation, 450 – 8000 MHz

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

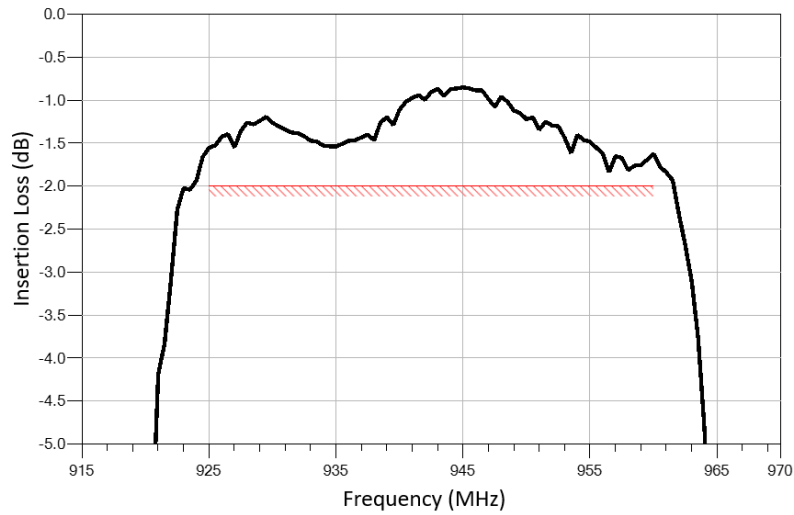


Figure 4. Passband Insertion Loss, 925 – 960 MHz

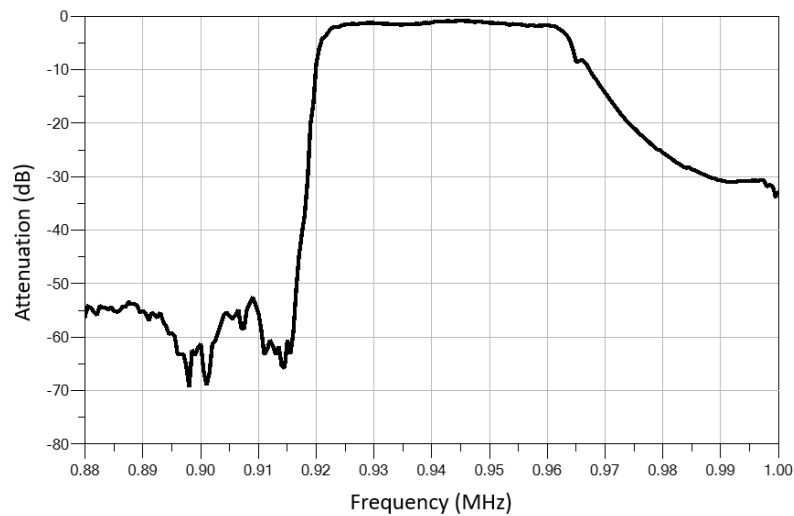


Figure 5. Narrow Band Attenuation, 880 – 1000MHz

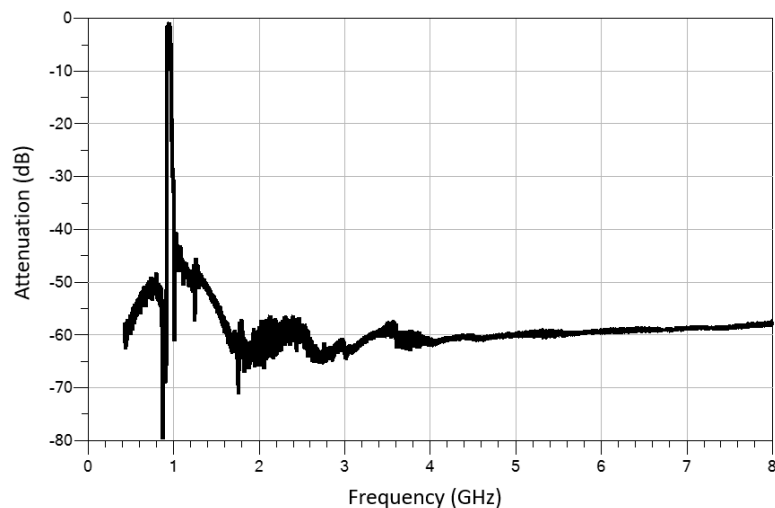
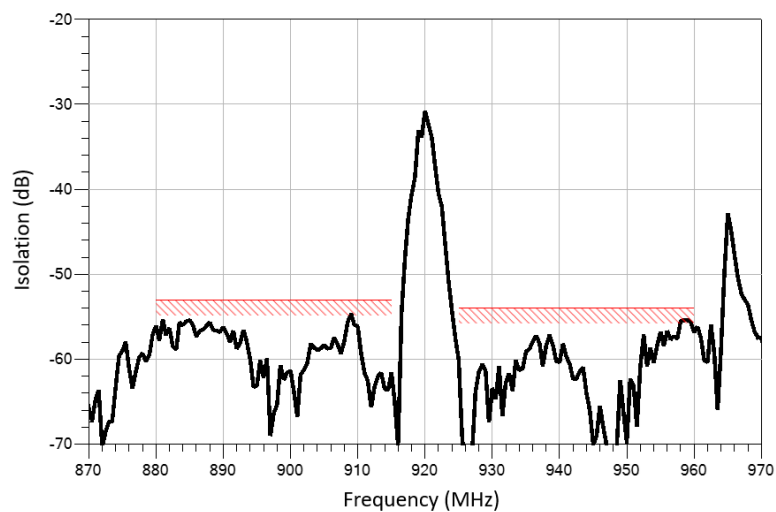
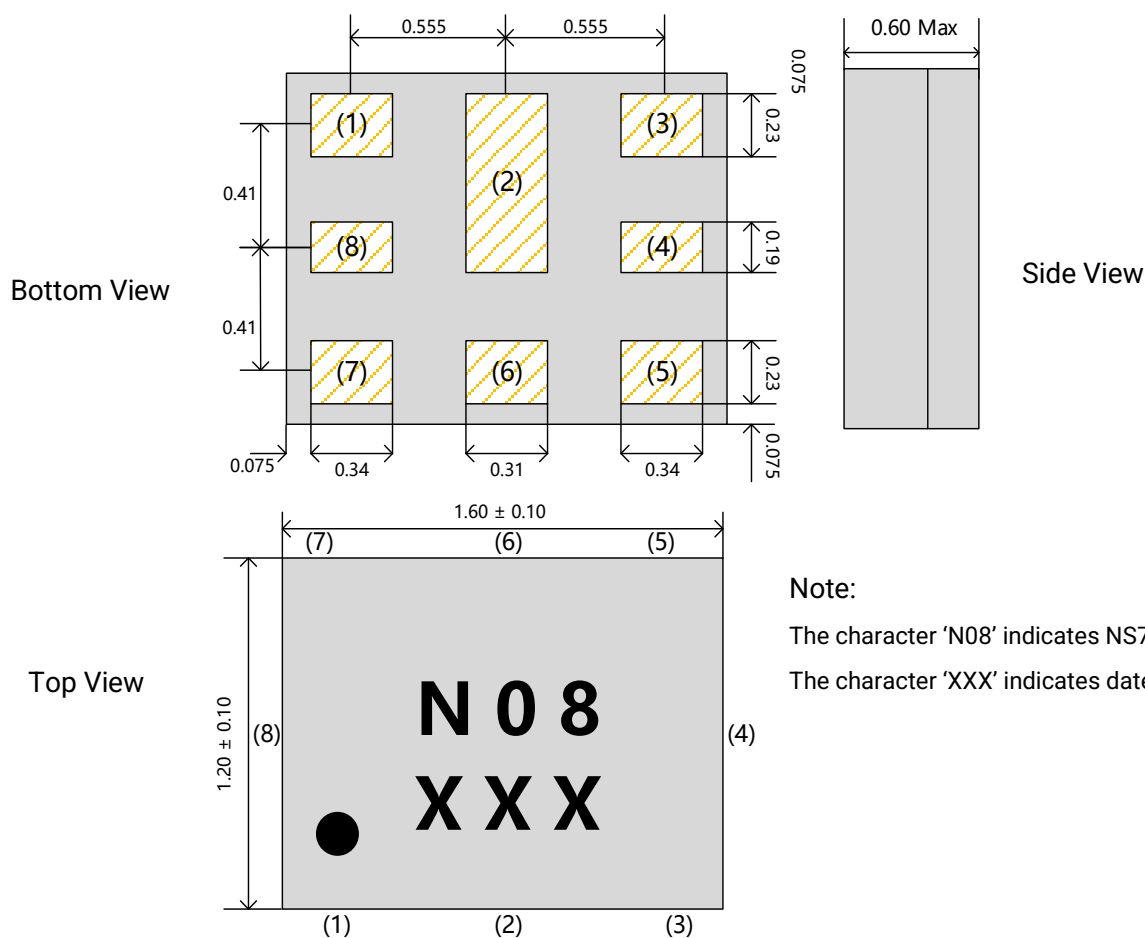


Figure 6. Wide Band Attenuation, 450 – 8000 MHz

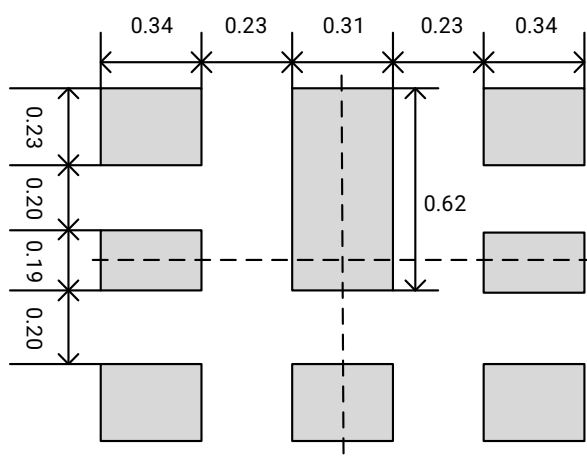
Typical Isolation (+25°C)



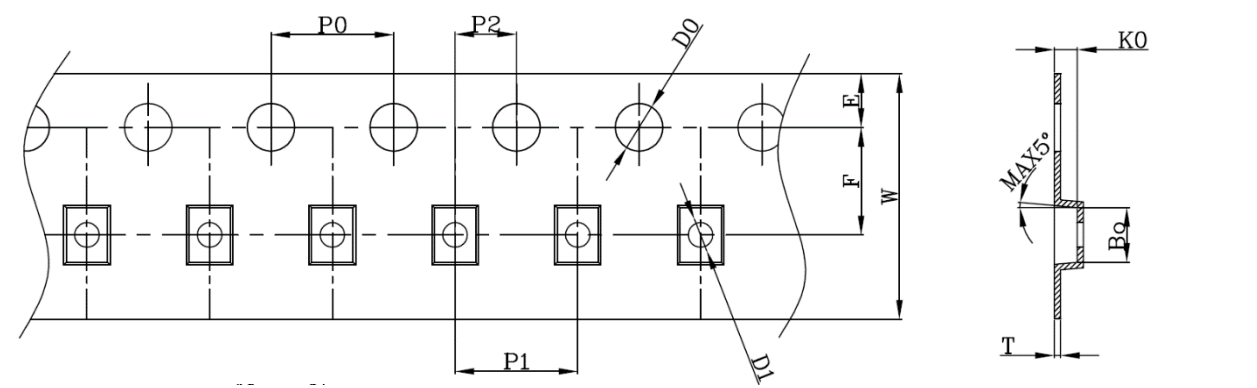
Package & Dimensions (Unit: mm)



PCB Mounting Pattern (Unit: mm)



Tape and Reel Information (Unit: mm)

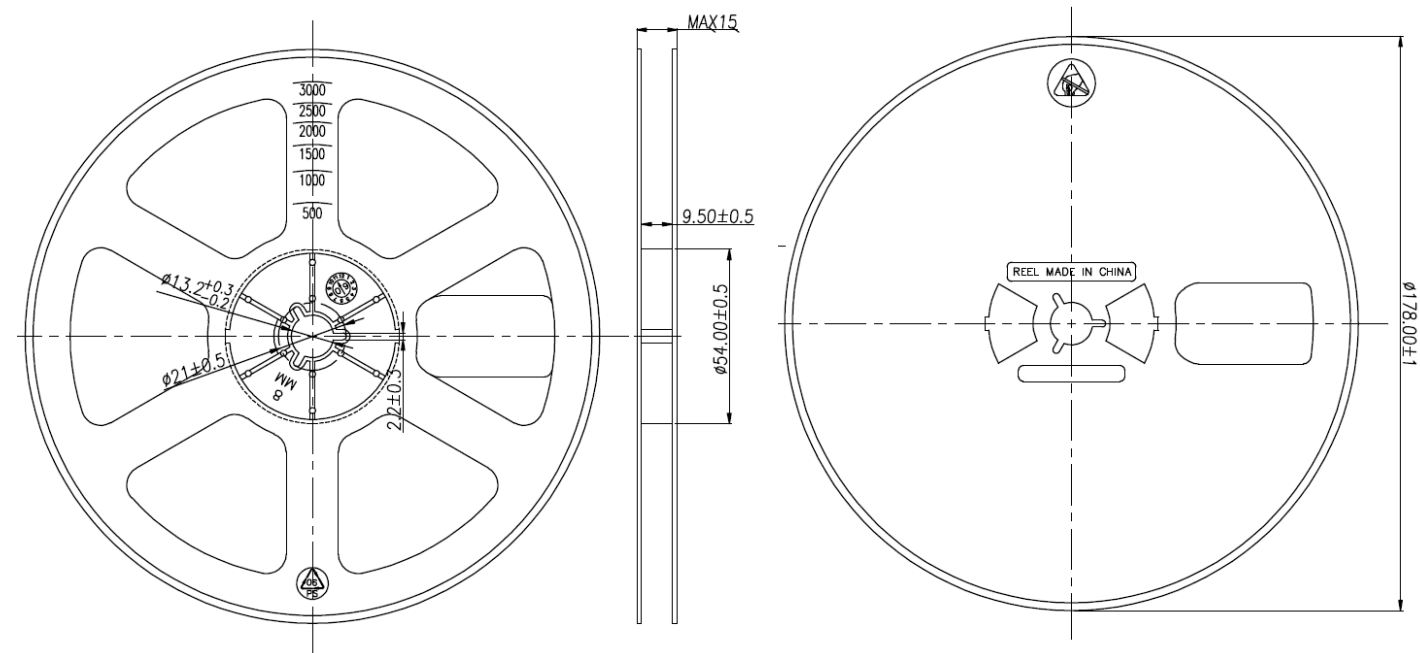


A0	B0	K0	P0	P1	P2
1.35±0.05	1.78±0.05	0.70±0.05	4.00±0.10	4.00±0.10	2.00±0.05
T	E	F	D0	D1	W
0.20±0.05	1.75±0.05	3.50±0.05	1.55±0.05	0.80±0.10	8.00±0.10

Note:

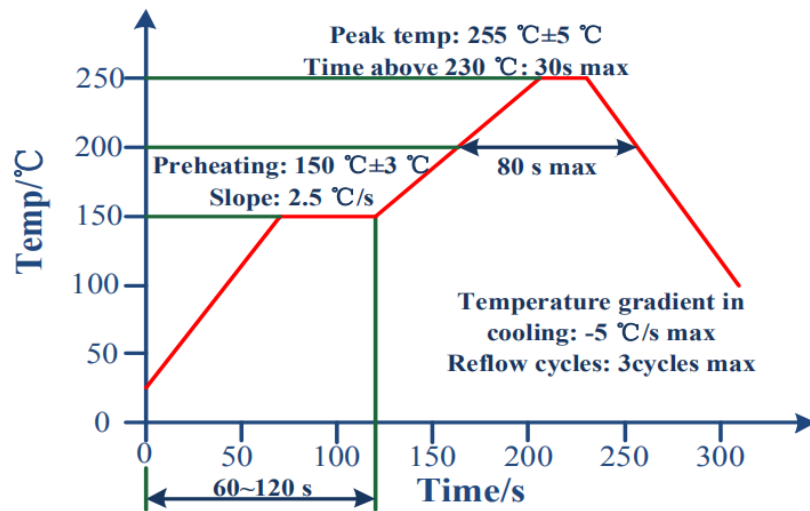
- (1) Black antistatic composite PC.
- (2) Cumulative tolerance of 10 sprocket holes is ± 0.20 .
- (3) All dimensions meet EIA-481-E requirements.
- (4) The sector of 250mm straps shall not exceed 2mm.

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.
2. Customers need to know all NEWSONIC products are for consumer market (Mobile-phone, PC-tablet, AP router or other general product). NEWSONIC products are not warranted or authorized for use as critical components in aircraft, plane, medical, life-saving and other high-reliability application environment which can cause severe results such as death.
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