

Product Description

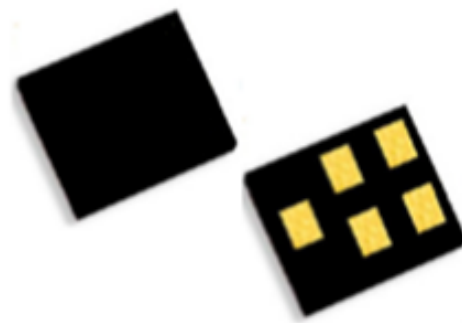
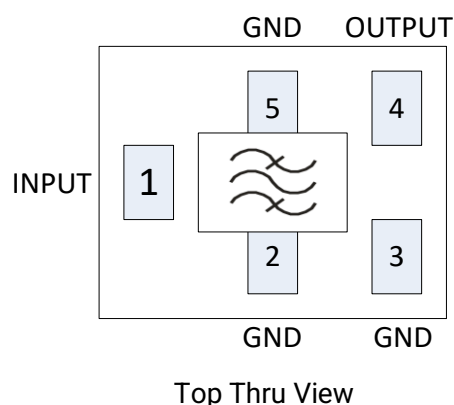
The NS72171A is a high performance, Surface Acoustic Wave (SAW) technology based band-pass filter with extremely steep skirts, simultaneously exhibiting low loss.

The NS72171A uses Chip Scale Packaging (CSP) techniques to achieve the industry standard 1.1 x 0.9 mm footprint. The filter exhibits excellent insertion loss capabilities.

Applications

- Band 71 RX Application

Functional Block Diagram



Product Features

- Low Insertion Loss
- Standard size: 1.1 x 0.9 mm
- Operating Temperature -30 to +85°C
- Single Ended Operation
- RoHS2.0 Compliant, Halogen Free
Pb-free Module Package, MSL3

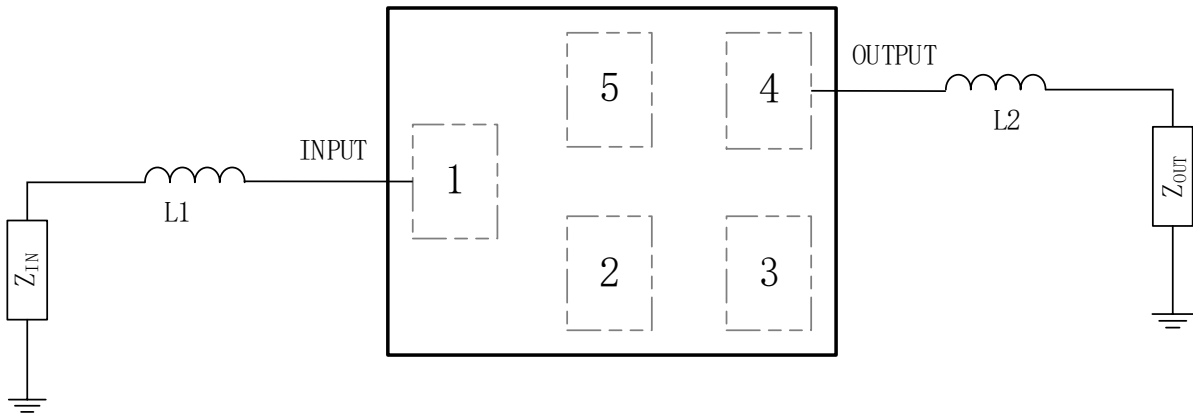
Ordering Information

Part No.	Description
NS72171A	Packaged part
NS72171A-EVB	Evaluation board

Absolute Maximum Ratings

Parameter	Rating
Storage Temperature	-40°C ~ +85°C
Operating Temperature	-30°C ~ +85°C
RF Input Power	+15dBm, +50 °C for 5000 hours.
Maximum DC Voltage	3V

Testing Circuit (Top Thru View)



Z _{IN}	50 ohm
Z _{OUT}	50 ohm
L1*	14 nH
L2*	20 nH
Pin1	INPUT
Pin4	OUTPUT
Pin 2/3/5	GND

* Ideal Value

Electrical Specifications

Temperature range for specification: T_C = -30 ~ +85 °C

Input Terminating Condition: Z_{IN} = 50 ohm + 14 nH

Output Terminating Condition: Z_{OUT} = 50 ohm + 20 nH

Parameter	Frequency	Min.	Typ. ^[a]	Max.	Unit	Note
		-30°C to +85°C				
Insertion Loss	617 to 652 MHz		1.7	2.1	dB	
Ripple ^[b]	617 to 652 MHz		1.0	1.6	dB	
VSWR_INPUT	617 to 652 MHz		1.7	1.9		
VSWR_OUTPUT	617 to 652 MHz		1.7	1.9		
Attenuation	100 to 608 MHz	25	27		dB	
	663 to 698 MHz	38	44		dB	B71 TX
	709 to 740 MHz	22	25		dB	
	793 to 805 MHz	21	24		dB	
	1058 to 1138 MHz	25	28		dB	
	1710 to 1755 MHz	41	45		dB	B4 TX
	1850 to 1910 MHz	43	47		dB	B2 Tx
	2305 to 2315 MHz	54	57		dB	B30 Tx
	2400 to 2500 MHz	55	58		dB	Wifi 2.4G
	4900 to 5950 MHz	75	80		dB	Wifi 5G

[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.

Typical Transmission Coefficient (+25°C)

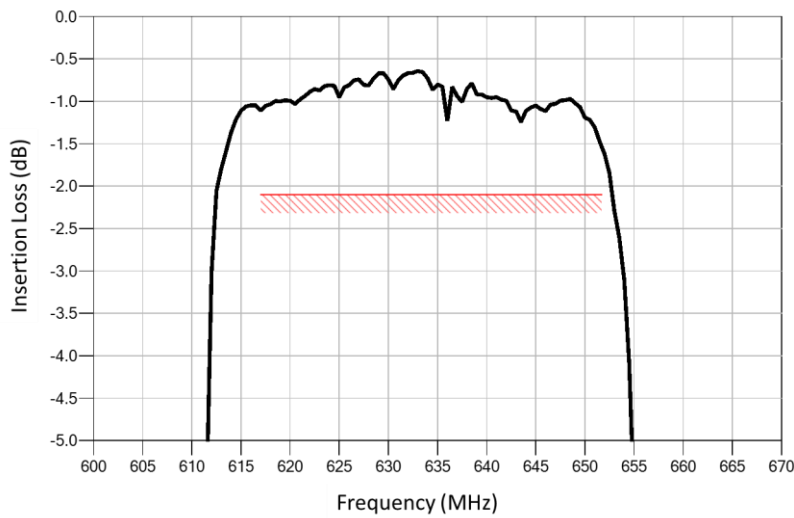


Figure 1. Passband Insertion Loss, 617 – 652 MHz

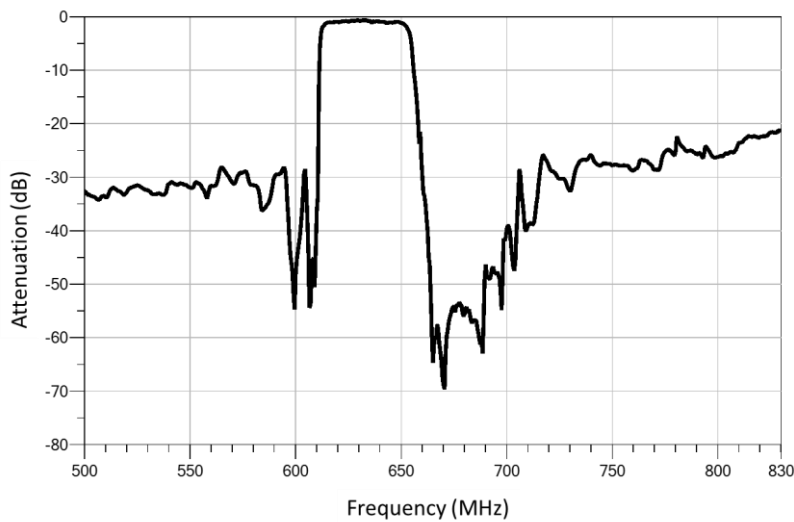


Figure 2. Narrow Band Attenuation, 500 – 830 MHz

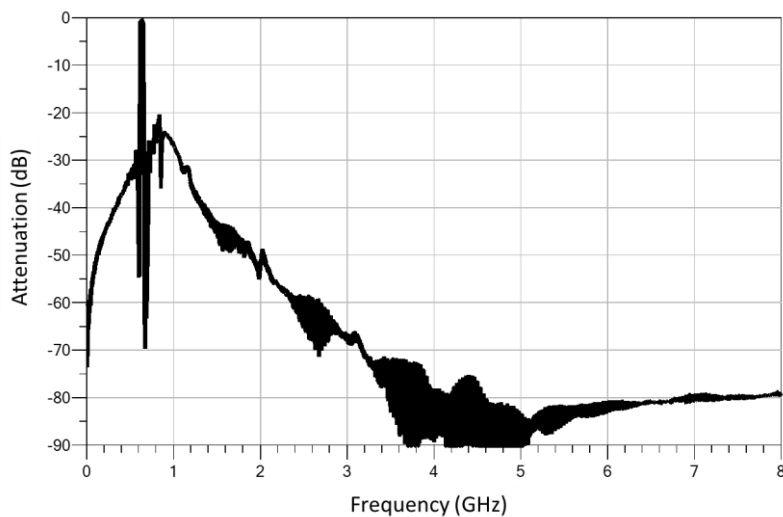
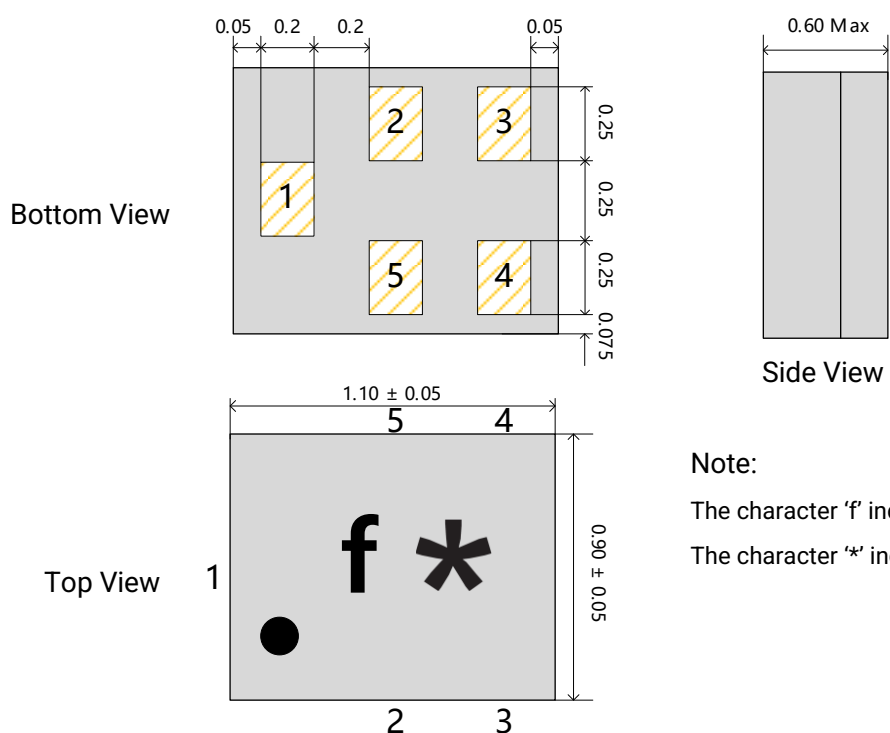
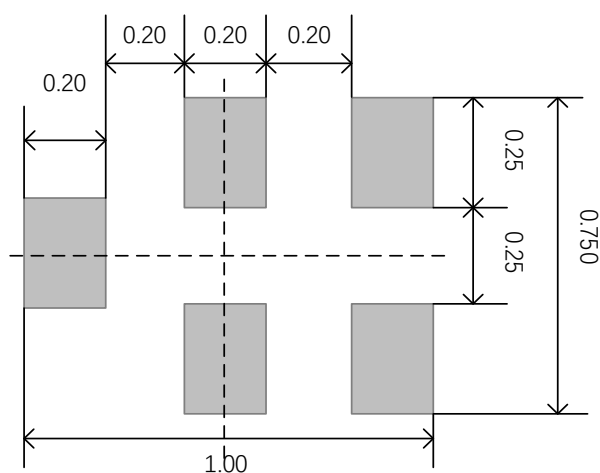


Figure 3. Wide Band Attenuation, 0 – 8000 MHz

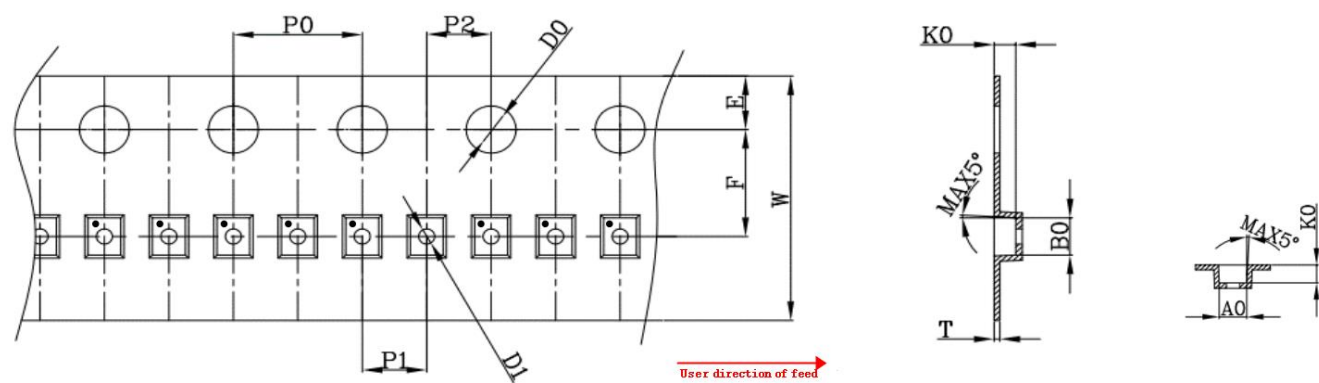
Package & Dimensions (Unit: mm)



PCB Mounting Pattern (Unit: mm)

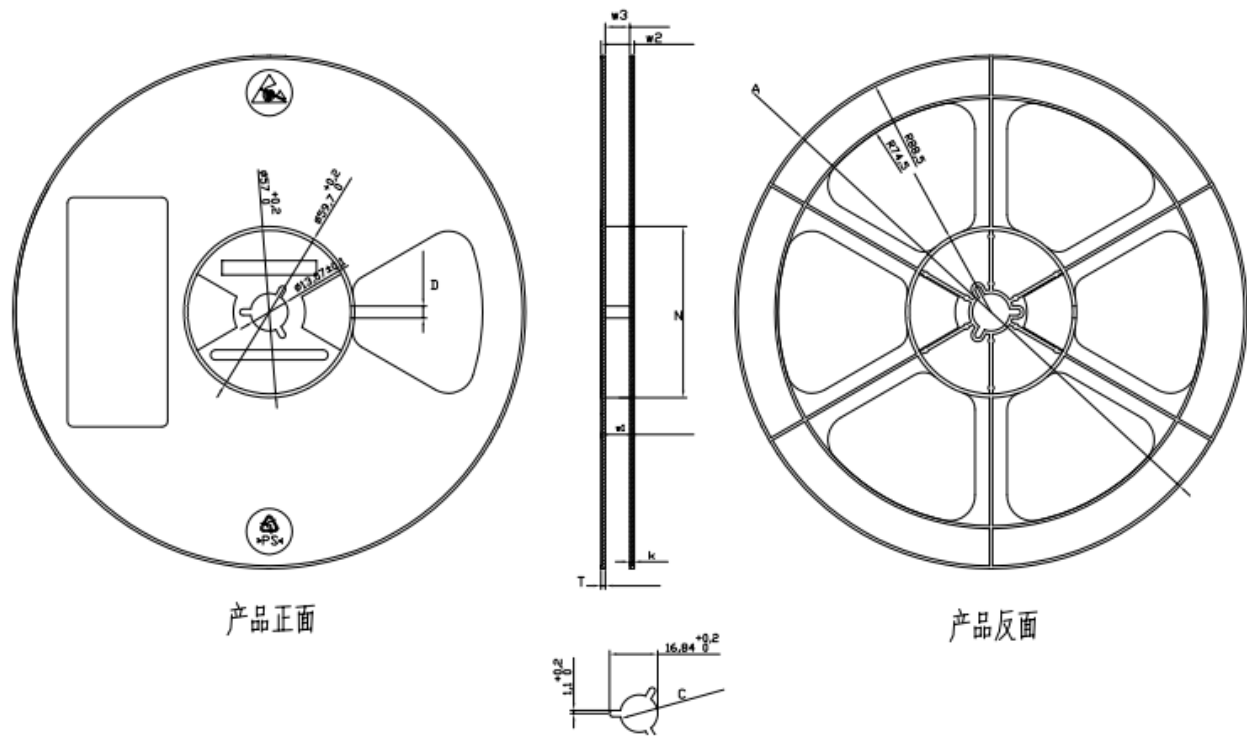


Tape and Reel Information (Unit: mm)



A0	1.02+/-0.05	T	0.20+/-0.03
B0	1.22+/-0.05	E	1.75+/-0.10
K0	0.67+/-0.05	F	3.50+/-0.05
P0	4.00+/-0.10	D0	1.55+/-0.05
P1	2.00+/-0.05	D1	0.50+/-0.10
P2	2.00+/-0.05	W	8.00+0.30/-0.10

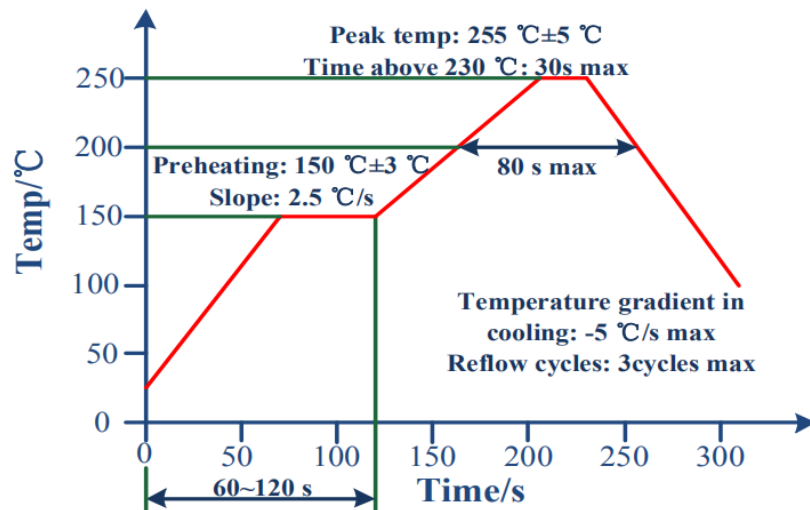
- (1) Black antistatic composite PC.
- (2) Cumulative tolerance of 10 sprocket holes is ± 0.20 .
- (3) All dimensions meet EIA-481-E requirements.
- (4) The sector of 250mm straps shall not exceed 2mm.



Reeling Quantity: 10000 pcs / Reel

Type	A	N	C	D	w1	w2	w3	T	k
8mm	$\Phi 180^{+2}_{-2}$	$\Phi 60^{+1}_{-1}$	$\Phi 13.1^{+0.2}_{-0.2}$	$\Phi 4.2^{+0.5}_{-0.5}$	8.4^{+1}_{-0}	11.6^{+1}_{-1}	8.75^{+1}_{-1}	$1.5^{+0.15}_{-0.15}$	$1.25^{+0.1}_{-0.05}$

Recommended IR Reflow Profile



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