Product Description

The NS82140C is a high performance Surface Acoustic Wave (SAW) technology based band-pass filter with extremely steep skirts, simultaneously exhibiting low loss.

The NS82140C 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.

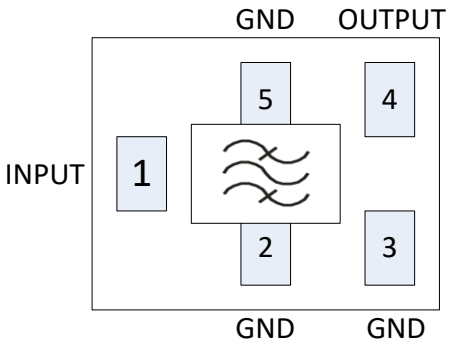
Applications

- LTE B40 TRX Application

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

Functional Block Diagram



Top Thru View

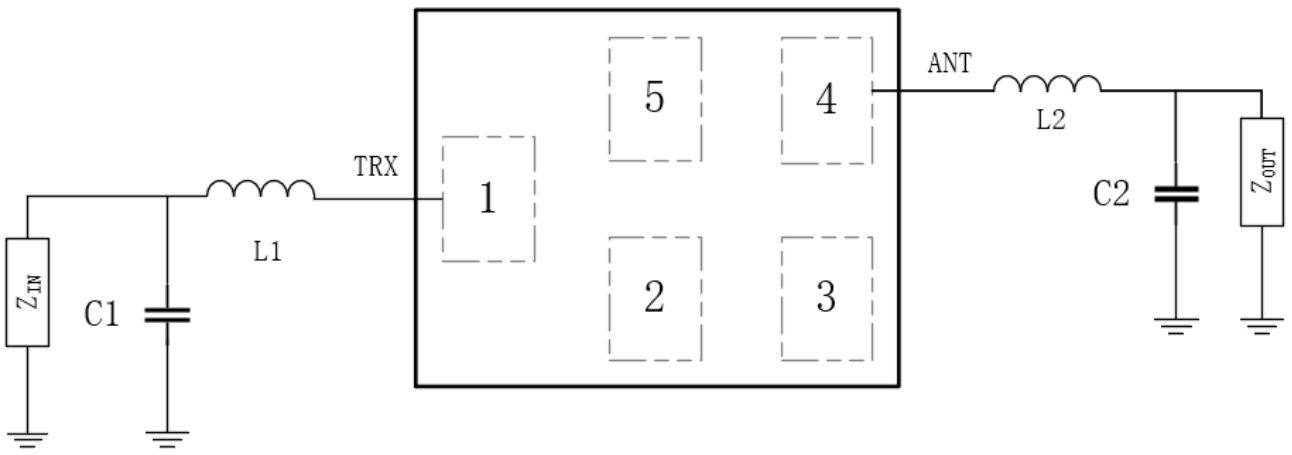
Ordering Information

Part No.	Description
NS82140C	Packaged Part
NS82140C-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	3V

Testing Circuit (Top Thru View)



Top Thru View

Z_{IN}	50 ohm
Z_{OUT}	50 ohm
L1*	2.8 nH
C1*	1.0 pF
L2*	2.8 nH
C2*	1.0 pF
Pin1	TRX
Pin4	ANT
Pin 2/3/5	GND

* Ideal Value

Electrical Specifications

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

Tested using the match circuit shown in testing circuit.

Parameter	Frequency	Min.	Typ. [a]	Max.	Unit	Note
		-30°C to +85°C				
Insertion Loss	2300 to 2400 MHz		1.8	2.3	dB	
Ripple[b]	2300 to 2400 MHz		0.8	1.5	dB	
VSWR_Input	2300 to 2400 MHz		1.4	1.5		
VSWR_Output	2300 to 2400 MHz		1.5	1.6		
Attenuation	1559 to 1563 MHz	20	22		dB	
	1565 to 1573 MHz	20	22		dB	
	1573 to 1585 MHz	20	22		dB	
	1598 to 1606 MHz	20	22		dB	
	2432 to 2452 MHz	6	11		dB	
	1710 to 1785 MHz	21	23		dB	
	1805 to 1880 MHz	21	23		dB	
	1920 to 1980 MHz	21	23		dB	
	2110 to 2170 MHz	22	24		dB	
	2447 to 2500 MHz	26	29		dB	
	2496 to 2690 MHz	19	21		dB	
	4600 to 4800 MHz	31	34		dB	
	5725 to 5785 MHz	45	48		dB	
	6900 to 7200 MHz	55	59		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.

Typical Transmission Coefficient (+25°C)

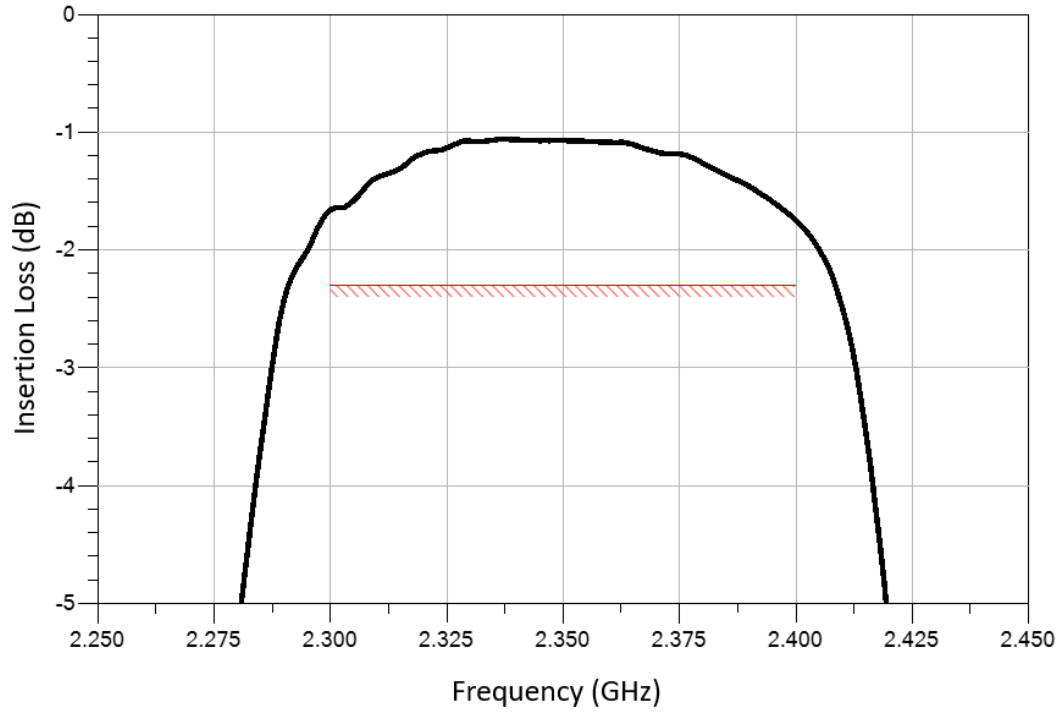


Figure 1. Passband Insertion Loss, 2300 – 2400 MHz

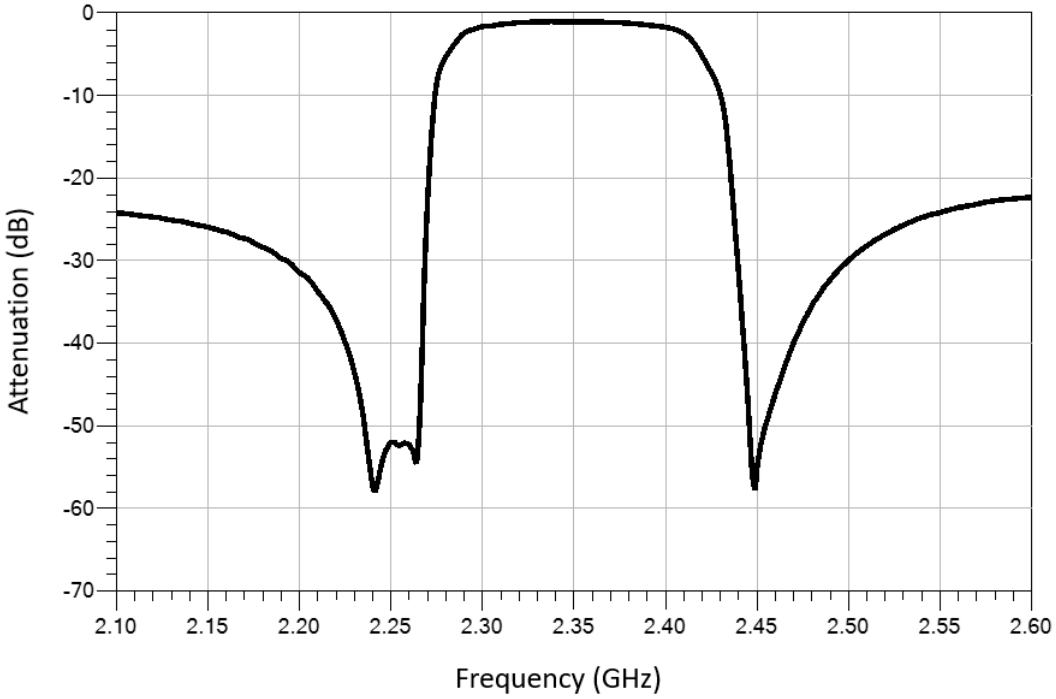


Figure 2. Narrow Band Attenuation, 2100 – 2600 MHz

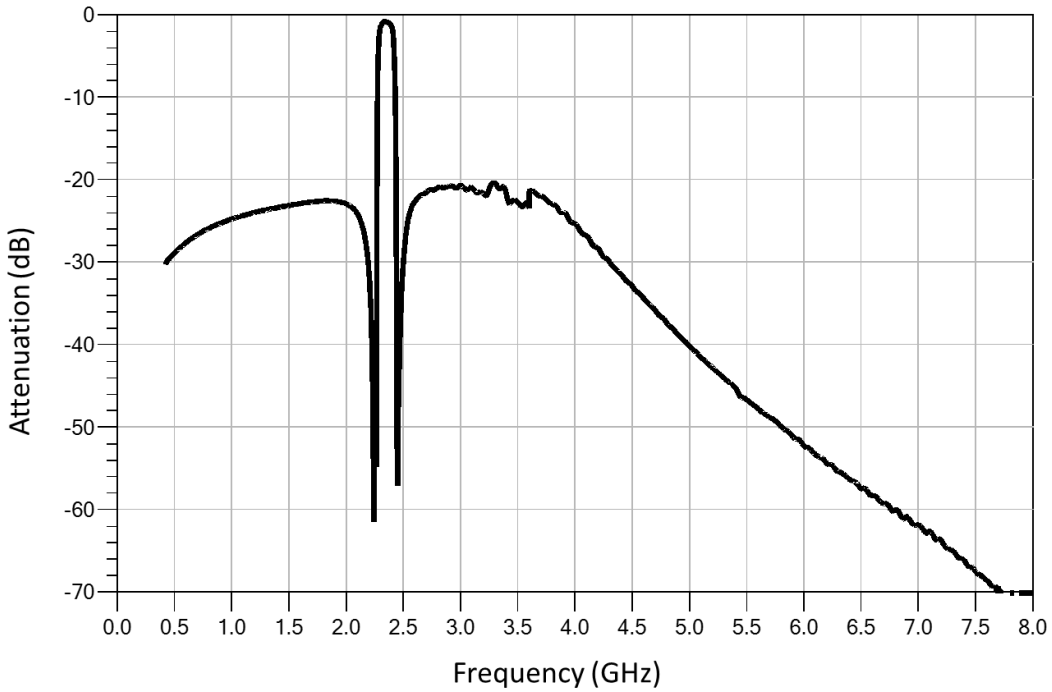
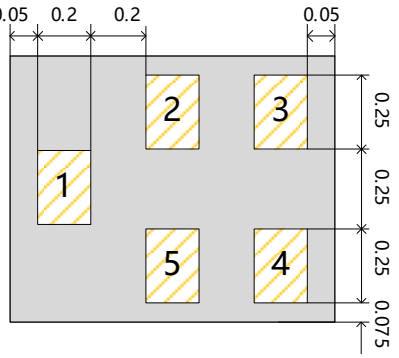
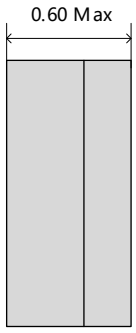


Figure 3. Wide Band Attenuation, 450 – 8000 MHz

Package & Dimensions (Unit: mm)

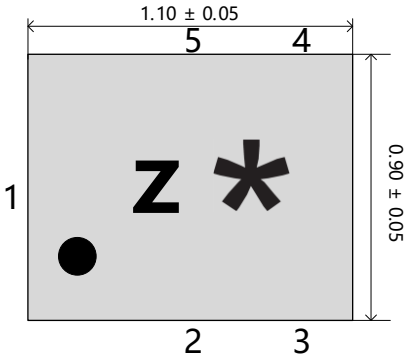
Bottom View





Side View

Top View

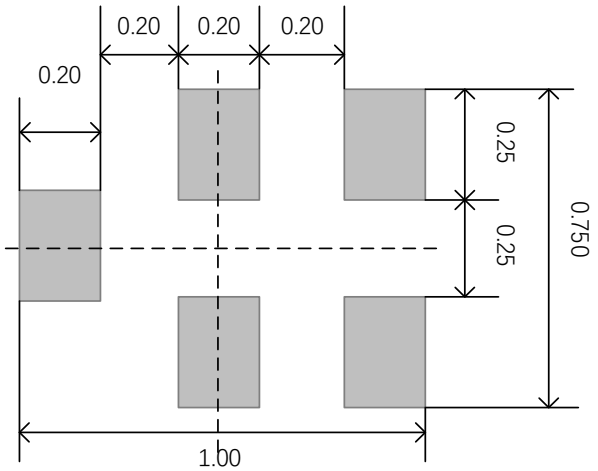


Note:

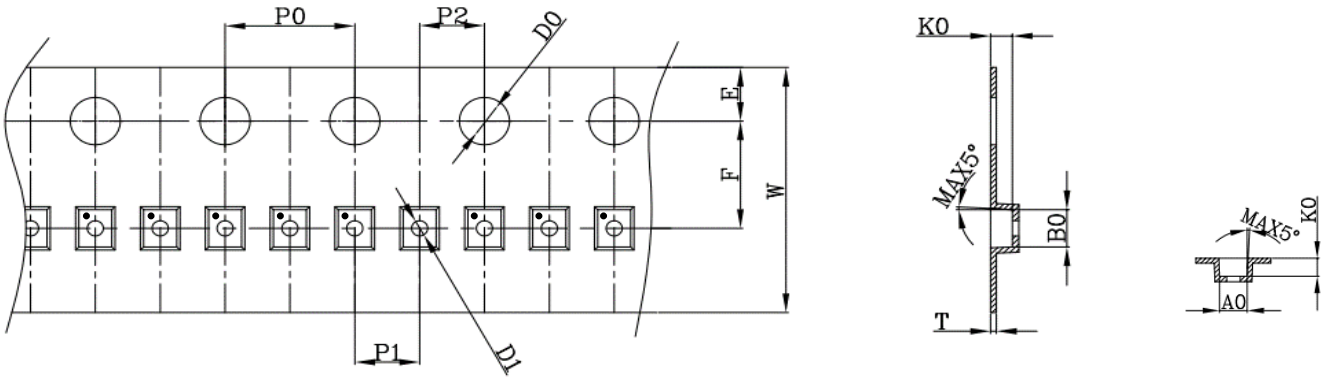
The character 'z' indicates NS82140C.

The character '*' indicates date code.

PCB Mounting Pattern (Unit: mm)



Tape and Reel Information (Unit: mm)



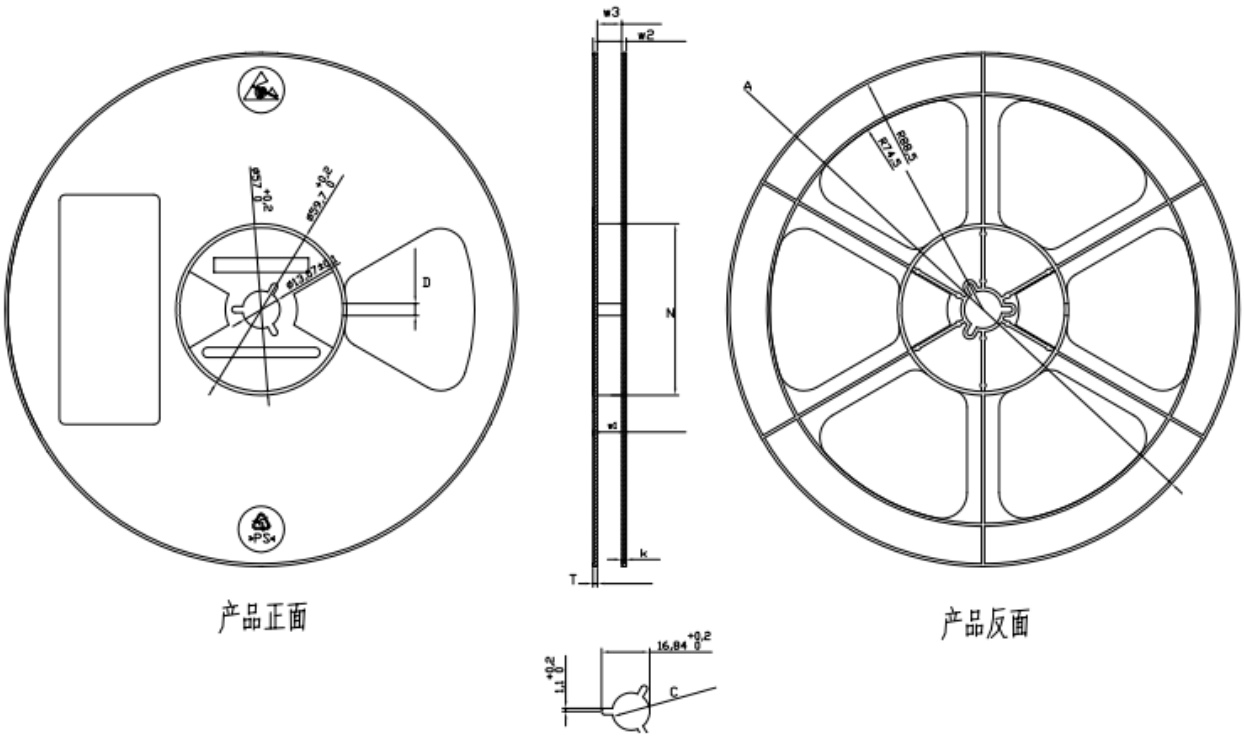
A0	1.02+/-0.05	T	0.20+/-0.03
B0	1.22+/-0.05	E	1.75+/-0.10
K0	0.67+/-0.05	F	3.50+/-0.05
P0	4.00+/-0.10	D0	1.55+/-0.05
P1	2.00+/-0.05	D1	0.50+/-0.10
P2	2.00+/-0.05	W	8.00+0.30/-0.10

(1) Black antistatic composite PC.

(2) Cumulative tolerance of 10 sprocket holes is ± 0.20.

(3) All dimensions meet EIA-481-E requirements.

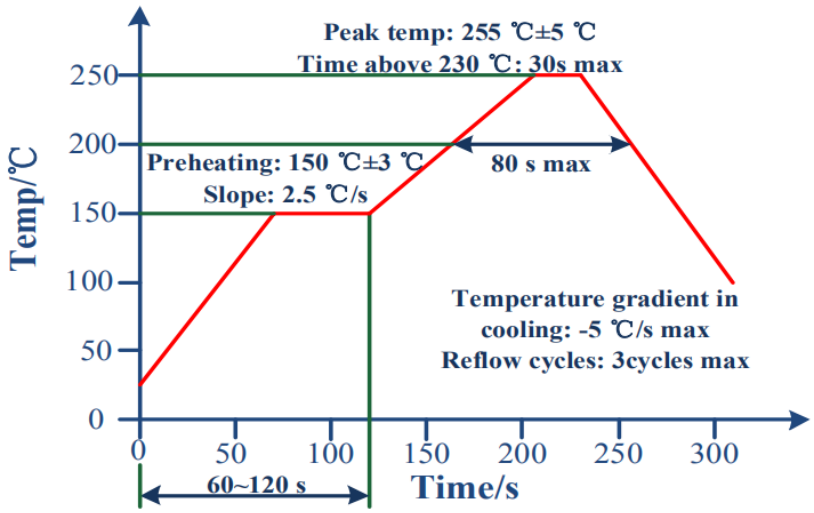
(4) The sector of 250mm straps shall not exceed 2mm.



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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