

**Description:** 13.56MHz RFID/NFC SMD  
Antenna

**Series:** Embedded NFC

**PART NUMBER:** W3102



**Features:**

- Antenna type coil on ferrite core
- Frequency 13.56MHz
- Inductance 4.7uH
- Read Distance 17mm
- Size 7.8 x 7 x 5 mm
- Fully SMD compatible
- RoHS Compliant
- MSL level 3

**Applications:**

- RFID / NFC systems
- Pairing, Sharing

All dimensions are in mm / inches

Issue: 1944

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

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### ELECTRICAL SPECIFICATIONS

Antenna Type	coil
Frequency	13.56 MHz
Nominal Impedance	50 $\Omega$ /80 $\Omega$
Self inductance	4.7uH
resistance	0.25 $\Omega$
read distance	17mm

### MECHANICAL SPECIFICATIONS

Size	7.8 X 7.0 X 5.0 mm
Weight	0.83 g
Antenna Material	Core: 7.8 X 5.0(SH)DR B3.0 DR7.8 X 5.0 B3.0 Wire: 2UEW

### ENVIRONMENTAL SPECIFICATIONS

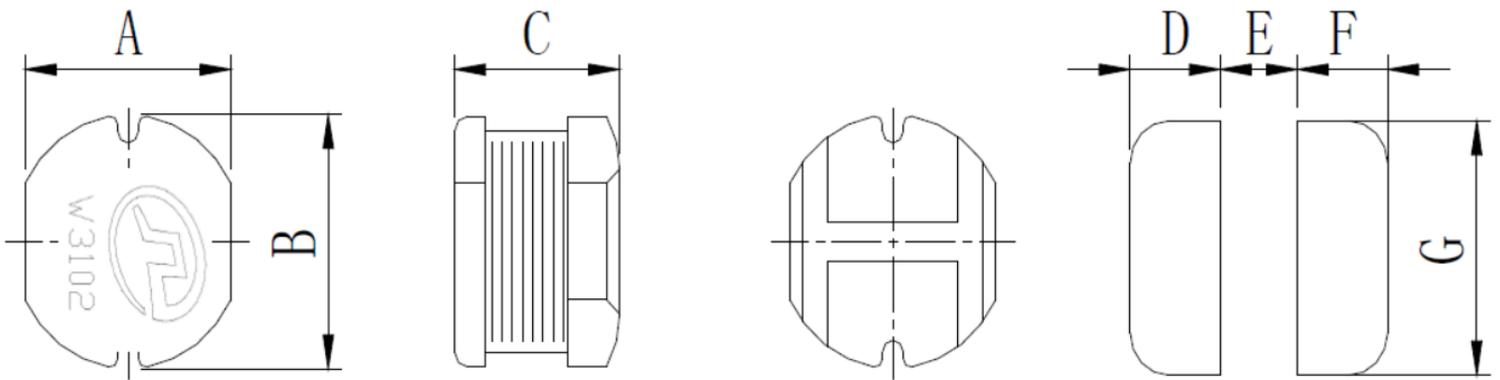
Operating Temperature	-40 ~ +125° C
Storage Temperature	-20 ~ +80° C
RoHS Compliant	Yes

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**MECHANICAL DRAWING**



Recommend Solder Dimension

Dimension	A	B	C	D	E	F	G
Unit (mm/in)	7.0±0.3/0.28±0.01	7.8±0.3/0.31±0.01	5.0±0.35/0.20±0.01	2.5/0.10 Ref	2.7/0.11 Ref	2.5/0.10 Ref	7.5/0.30 Ref

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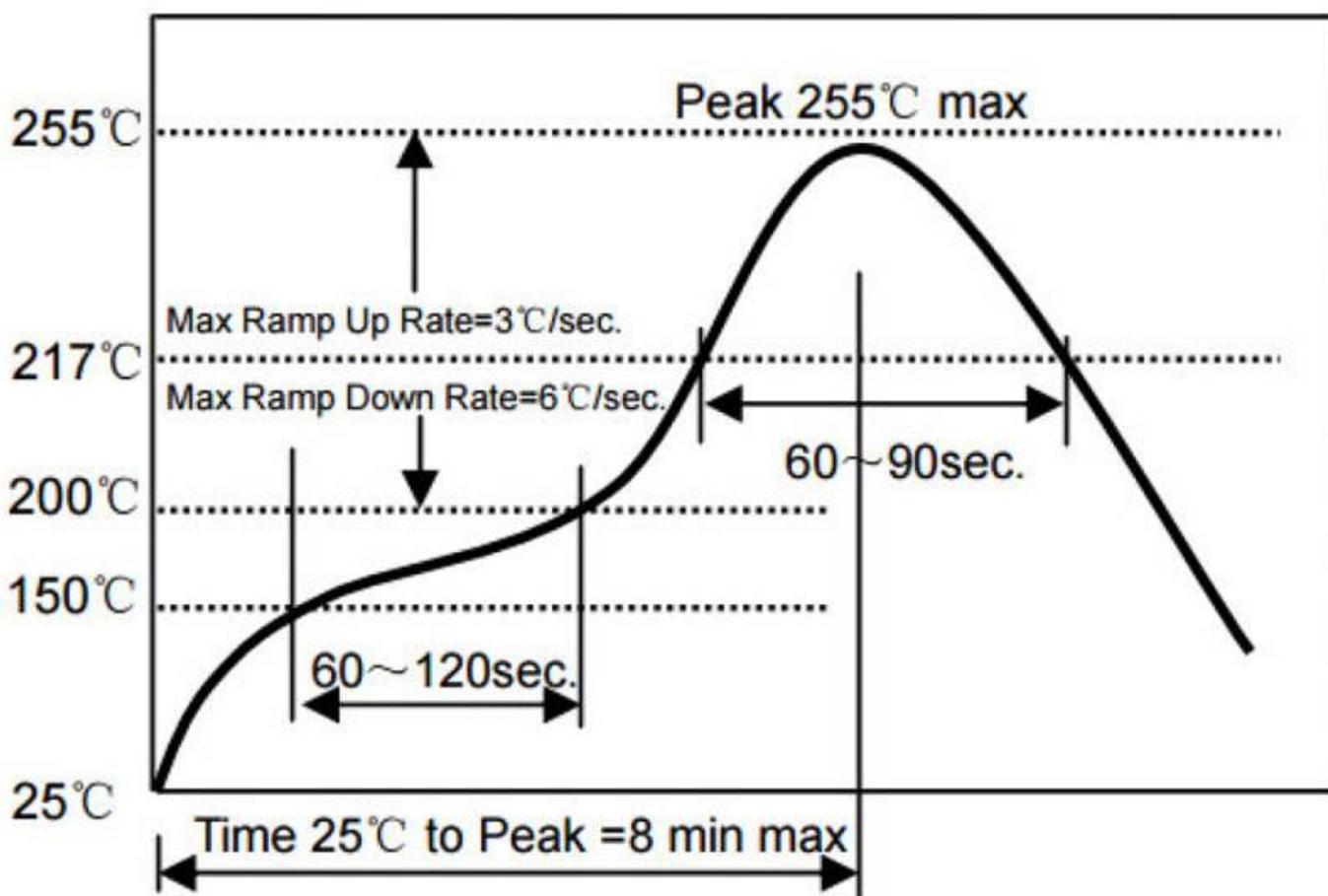
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## Reflow Soldering Temperature Profile Recommendation



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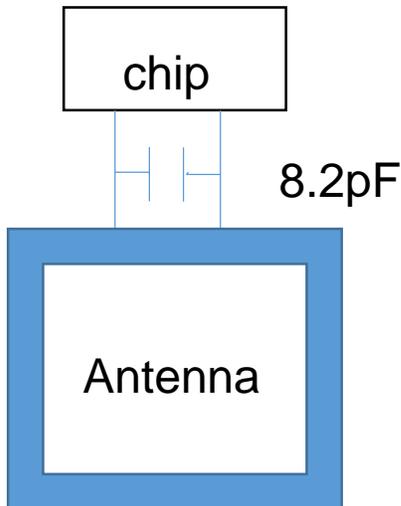
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**TEST SETUP**



ACR card reader



Matching circuit

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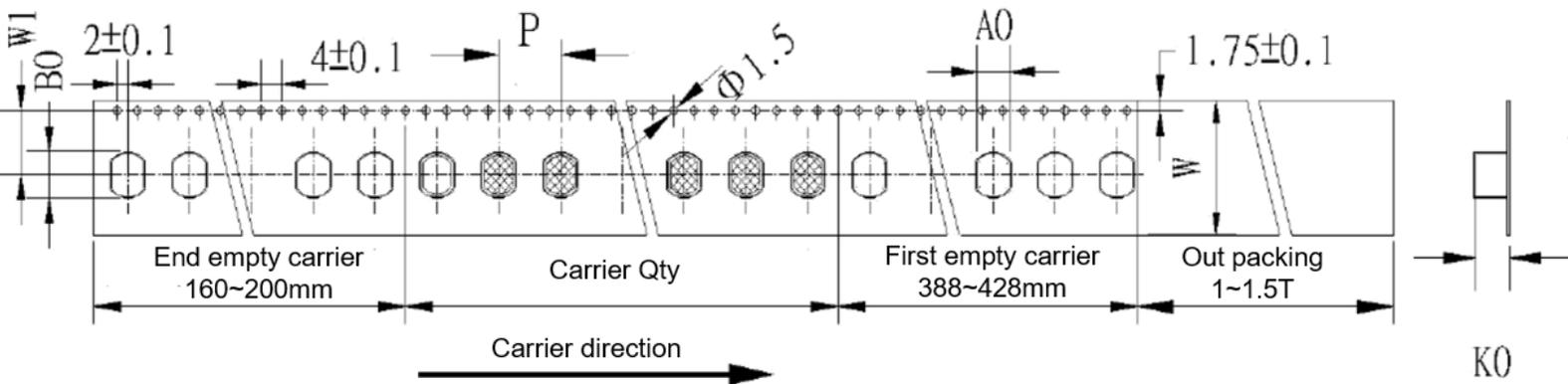
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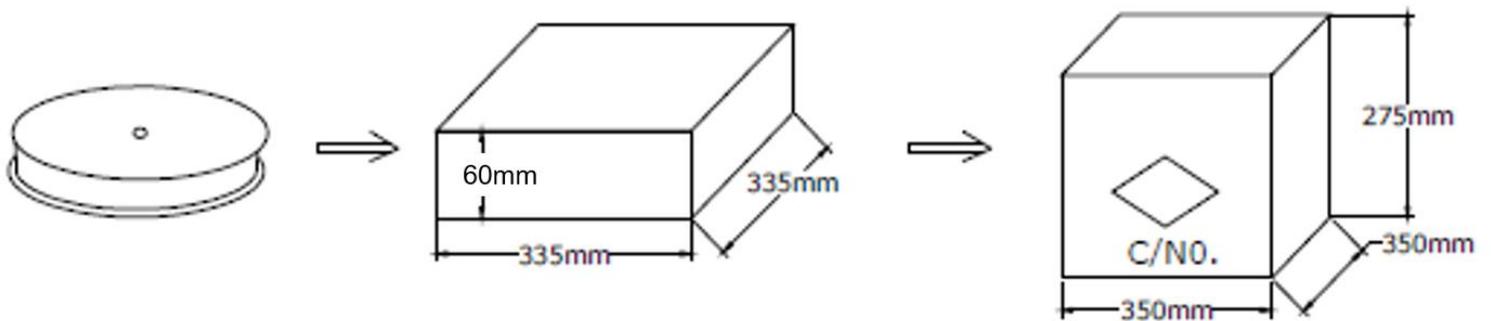
**PACKAGING**

1. Tape and reel packing with plastic vacuum bag.

1000 PCS/ REEL, 3 Reels/ Small BOX, 3 Small Boxes/ Big Box



Type	Carrier Size						
	W	W1	T	P	A0	B0	K0
W3102	16	12.5	0.4	12	7.5	6.1	9.5



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## 2. MSL: Level 3

2.1 Calculated shelf life in sealed bag: 12 months at  $< 30^{\circ}\text{C}$  and 60% relative humidity (RH)

2.2 Peak temperature in reflow:  $255^{\circ}\text{C}$  Max

2.3 After bag is opened, devices that will be subjected to reflow solder or other temperature process must:

- a) Mount within: 168 hours of factory conditions  $\leq 30^{\circ}\text{C}/60\%$
- b) stored at  $< 20\%$  RH

2.4 Devices require bake, before mounting, if:

- a) Humidity Indicator Card is  $> 20\%$  when read at  $23 \pm 5^{\circ}\text{C}$
- b) 3a or 3b not met

2.5 If baking is required, devices may be baked for 24 hours at  $125\sim 130^{\circ}\text{C}$

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