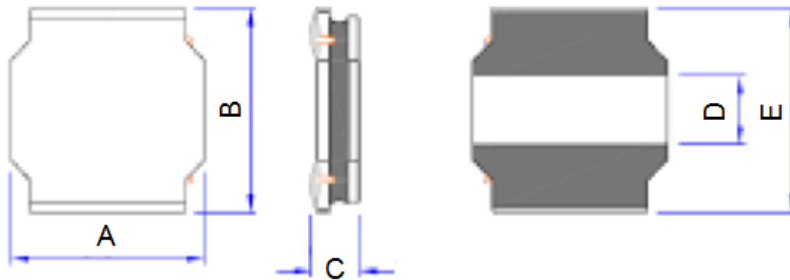


### 1. Dimension



Series	A	B	C	D	E
BCNRL4030	4.0±0.2	4.0±0.2	3.0 Max.	2.1±0.2	4.0±0.2

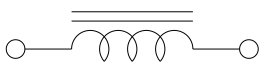
Unit: mm

### 2. Part Numbering

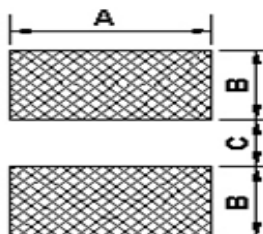
BCNRL 4030 - 1R0 N - NL  
 (1) (2) (3) (4) (5)

- (1) Product Code
- (2) Dimension
- (3) Inductance                    1R0=1.0μH
- (4) Inductance Tolerance    K=±10%, M=±20%, N=±30%
- (5) RoHS Compliant

### 3. Schematic Diagram



### 4. Recommended Land Dimension



A	3.7
B	1.1
C	1.9

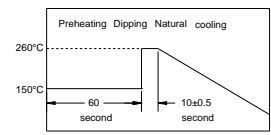
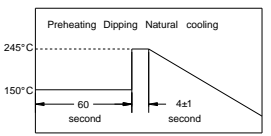
Unit: mm

### 5. Specification

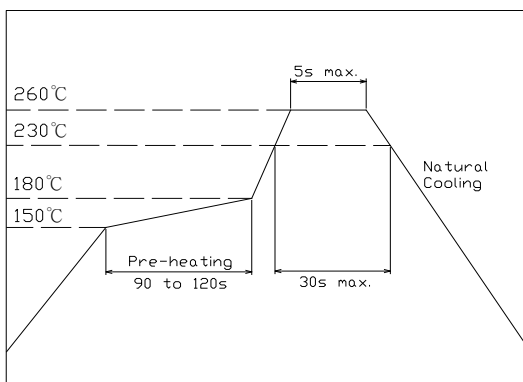
Part Number	Inductance (μH)	Tolerance	Test Frequency (Hz)	DCR (Ω) Max.	Isat <sub>2</sub> (A) Max.	Irms <sub>3</sub> (A) Max.
BCNRL4030-R68N-NL	0.68	±30%	1V/100K	0.013	6.80	4.56
BCNRL4030-1R0N-NL	1.0	±30%	1V/100K	0.018	5.26	4.15
<b>BCNRL4030-2R2N-NL</b>	2.2	±30%	1V/100K	0.039	4.90	2.95
BCNRL4030-3R3M-NL	3.3	±20%	1V/100K	0.052	3.30	2.40
BCNRL4030-4R7M-NL	4.7	±20%	1V/100K	0.078	2.90	2.00
BCNRL4030-5R6M-NL	5.6	±20%	1V/100K	0.085	2.60	1.95
BCNRL4030-6R8M-NL	6.8	±20%	1V/100K	0.117	2.75	1.60
BCNRL4030-8R2M-NL	8.2	±20%	1V/100K	0.117	2.10	1.60
BCNRL4030-100M-NL	10	±20%	1V/100K	0.130	1.95	1.50
BCNRL4030-120M-NL	12	±20%	1V/100K	0.175	1.70	1.30
BCNRL4030-150M-NL	15	±20%	1V/100K	0.247	1.65	1.11
BCNRL4030-180M-NL	18	±20%	1V/100K	0.260	1.40	1.10
BCNRL4030-220M-NL	22	±20%	1V/100K	0.292	1.30	1.00
BCNRL4030-330M-NL	33	±20%	1V/100K	0.429	1.10	0.84
BCNRL4030-470M-NL	47	±20%	1V/100K	0.579	0.95	0.72
BCNRL4030-560M-NL	56	±20%	1V/100K	0.722	0.85	0.65
BCNRL4030-680M-NL	68	±20%	1V/100K	1.128	0.72	0.52
BCNRL4030-820M-NL	82	±20%	1V/100K	1.378	0.66	0.47
BCNRL4030-101M-NL	100	±20%	1V/100K	1.495	0.60	0.45
BCNRL4030-121M-NL	120	±20%	1V/100K	1.755	0.55	0.42
<b>BCNRL4030-151M-NL</b>	<b>150</b>	±20%	1V/100K	2.340	<b>0.50</b>	<b>0.30</b>
BCNRL4030-221M-NL	220	±20%	1V/100K	3.250	0.40	0.35
BCNRL4030-331M-NL	330	±20%	1V/100K	5.200	0.30	0.25
BCNRL4030-471K-NL	470	±10%	1V/100K	9.360	0.30	0.20
BCNRL4030-681K-NL	680	±10%	1V/100K	9.854	0.19	0.14

1. All test data is referenced to 20°C ambient.
2. Isat: DC current at which the inductance drops approximate 30% from its value without current.
3. I rms: DC current that causes the temperature rise (Δ T =40°C ) from 20°C ambient.

## 6. Reliability and Test Condition

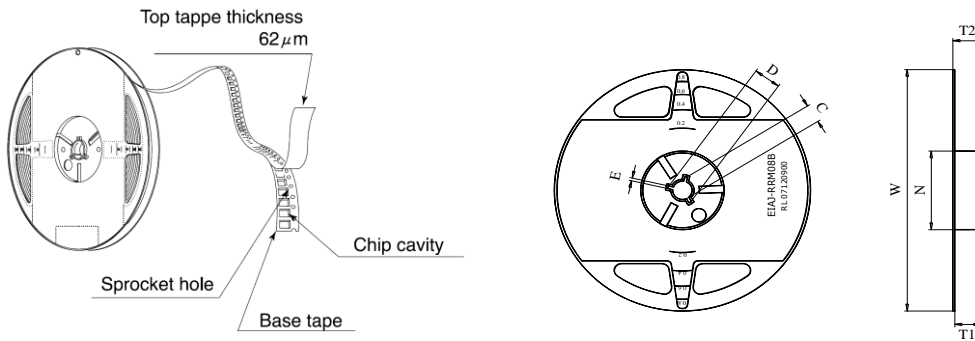
Item	Performance	Test Condition															
Operating Temperature	-40~+125℃																
Storage temperature	-40~+85℃																
Rated Current	Base on temp. rise & $\Delta L/LOA \leq 30\%$																
Temperature Rise Test	40℃ typ. ( $\Delta t$ )																
Solder heat Resistance	Appearance: No significant abnormality. Inductance change: Within $\pm 20\%$ .	 <p>Preheat: 150℃, 60sec.  Solder : Sn-Ag3.0-Cu0.5  Solder temperature: 260±5℃  Flux: rosin  Dip time: 10±0.5sec.</p>															
Solderability	More than 90% of the terminal electrode should be covered with solder.	 <p>Preheat: 125±25℃, 60sec.  Solder : Sn-Ag3.0-Cu0.5  Solder temperature: 245±5℃  Flux: rosin  Dip time: 4±1sec.</p>															
Thermal shock	Appearance: no damage. Inductance: within ±20% of initial value.	<table border="1" data-bbox="758 963 1061 1209"> <thead> <tr> <th>Phase</th> <th>Temperature(℃)</th> <th>Time(min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25±2℃</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room Temp.</td> <td>15</td> </tr> <tr> <td>3</td> <td>+85±2℃</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room Temp.</td> <td>15</td> </tr> </tbody> </table> <p>For SSL  Condition for 1 cycle  Step1: -25±2℃ 30±3 min.  Step2: Room temperature 15 min.  Step3: +85±2℃ 30±3 min.  Step4: Room temperature 15 min.  Number of cycles: 50  Measured: 50 times</p>	Phase	Temperature(℃)	Time(min)	1	-25±2℃	30±3	2	Room Temp.	15	3	+85±2℃	30±3	4	Room Temp.	15
Phase	Temperature(℃)	Time(min)															
1	-25±2℃	30±3															
2	Room Temp.	15															
3	+85±2℃	30±3															
4	Room Temp.	15															
Humidity Resistance Test	Appearance: no damage. Inductance: within ±20% of initial value.	Temperature: 40±2℃. Applied current: rated current. Duration: 500 hrs. Humidity: 90~95%															
High Temperature Resistance Test	Appearance: no damage. Inductance: within ±20% of initial value.	Temperature: 85±2℃. Applied current: rated current. Duration: 500 hrs.															
Random Vibration Test	Appearance: Cracking, shipping and any other defects harmful to the characteristics should not be allowed. Impedance: within ±30%	Frequency: 10-55-10Hz for 1 min. Amplitude: 1.52mm Directions and times: X, Y, Z directions for 2 hours. A period of 2 hours in each of 3 mutually perpendicular directions (Total 6 hours).															

## 7. Recommended Reflow Profile



## 8. Packaging

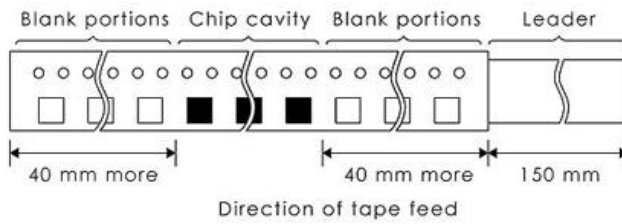
### 8-1 Reel Dimension



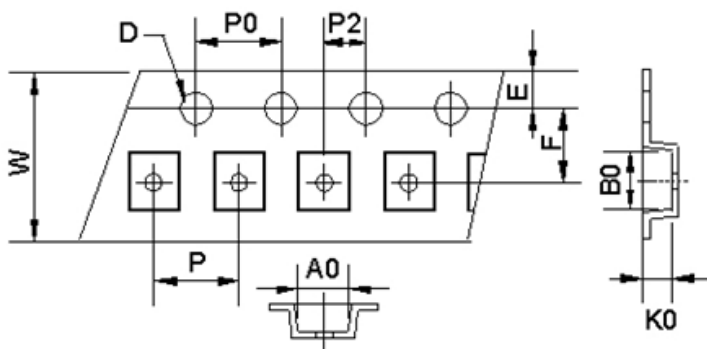
Series	W	N	D	C	T1	T2
16mm	330±1.5	90 Min.	21±0.8	13±0.8	17 Max.	21.5 Typ.

Unit: mm

### 8-2 Leader and Black Portion



### 8-3 Taping Dimension



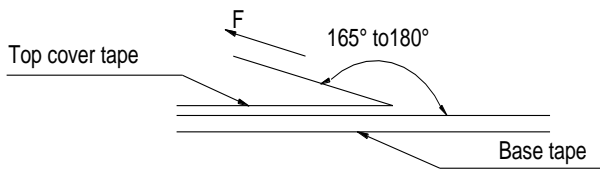
TYPE	BCNRL4030
W	12.0±0.3
AO	4.25±0.1
BO	4.25±0.1
KO	3.2±0.1
D	1.55±0.05
E	1.75±0.1
F	5.5±0.1
P	8.0±0.1
PO	4.0±0.1
P2	2.0±0.1

Unit: mm

8-4 Packaging Quantity

Series	Reel(Pcs)
BCNRL4030	2,000

8-5 Tearing Off Force



The force tearing off cove tape is 15 to 60 grams			
in the arrow direction under the following conditions			
Room Temp ( $^\circ\text{C}$ )	Room Humidity (%)	Room atrn (hPa)	Teaming Speed (mm/min)
5~35	45~85	860~1060	300.0