

CDRH105RNP-101MT

Wire Wound SMD Power Inductor

FEATURES

- High saturation current, low DCR
- Suitable for surface mounting equipment
- Close magnetic circuit design reduce leakage
- Operate temperature range $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Including self temp. rise)
- RoHS compliant

APPLICATIONS

- Power supply choke for small electrical equipments such as DVC, LCD display, notebook, communication equipment, OA equipment and so on.

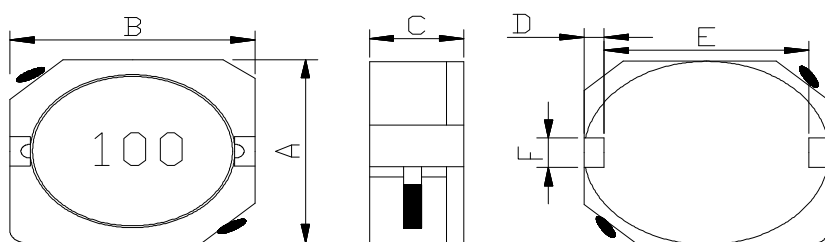
Explanation of Part Number

CDRH105RNP -101 M T

1 2 3 4 5 6

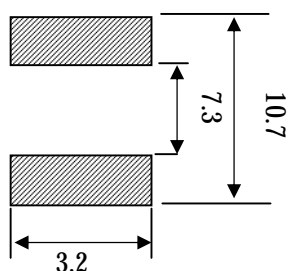
- ◆ 1:Product Series:Wire Wound SMD Power Inductor
- ◆ 2:Dimensions:
- ◆ 3: Material Code:
- ◆ 4: Initial inductance value: 101 = 100uH
- ◆ 5:Tolerance of Inductance:M: $\pm 20\%$
- ◆ 6:Packing:Tape Carrier Package

Dimensions: [mm]



A:	10.0±0.5	mm
B:	10.1±0.5	mm
C:	5.10 Max.	mm
D:	1.20 Typ.	mm
E:	7.70 Typ.	mm
F:	3.00 Typ.	mm

LAND PATTERN DIMENSIONS: [mm]



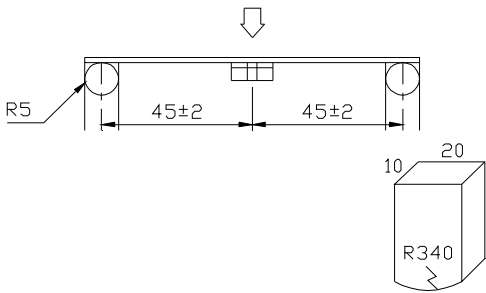
Electrical Properties:

MetalLions PT/NO.	Inductance L(μ H)	Test Frequency	Resistance RDC(m Ω) Max.	Isat (A)Max	Marking
CDRH105RNP-101MT	100 \pm 20%	100kHz/0.25V	253	1.35	101

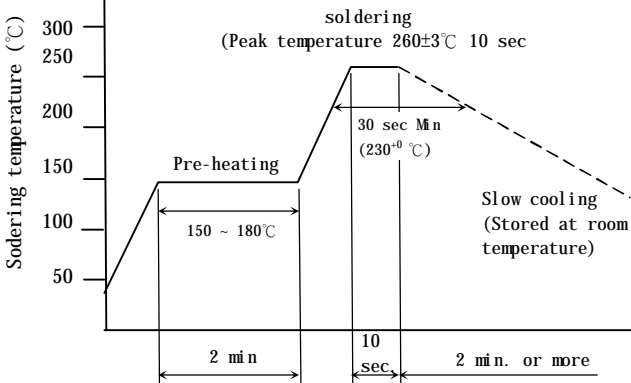
※ Isat : Based on inductance change (Δ L/Lo : drop 35% Max)

Reliability and Test Condition

MECHANICAL

TEST ITEM	SPECIFICATION	TEST DETAILS
Substrate bending	$\Delta L/L_0 \leq \pm 5\%$ There shall be no mechanical damage or electrical damage.	<p>The sample shall be soldered onto the printed circuit board in figure 1 and a load applied until the figure in the arrow direction is made approximately 3mm.(keep time 30 seconds)</p> <p>PCB dimension shall the page 7/9</p> <p>F(Pressurization)</p>  <p>PRESSURE ROD figure-1</p>
Vibration	$\Delta L/L_0 \leq \pm 5\%$ There shall be no mechanical damage.	<p>The sample shall be soldered onto the printed circuit board and when a vibration having an amplitude of 1.52mm and a frequency of from 10 to 55Hz/1 minute repeated should be applied to the 3 directions (X,Y,Z) for 2 hours each. (A total of 6 hours)</p>
Solderability	New solder More than 90%	<p>Flux (rosin, isopropyl alcohol{JIS-K-1522}) shall be coated over the whole of the sample before hard, the sample shall then be preheated for about 2 minutes in a temperature of 130~150℃ and after it has been immersed to a depth 0.5mm below for 3±0.2 seconds fully in molten solder M705 with a temperature of 245±5℃.</p> <p>More than 90% of the electrode sections shall be covered with new solder smoothly when the sample is taken out of the solder bath.</p>

MECHANICAL

TEST ITEM	SPECIFICATION	
Resistance to Soldering heat (reflow soldering)	There shall be no damage or problems.	<p>Temperature profile of reflow soldering</p>  <p>The specimen shall be passed through the reflow oven with the condition shown in the above profile for 1 time.</p> <p>The specimen shall be stored at standard atmospheric conditions for 1 hour, after which the measurement shall be made.</p>

ELECTRICAL

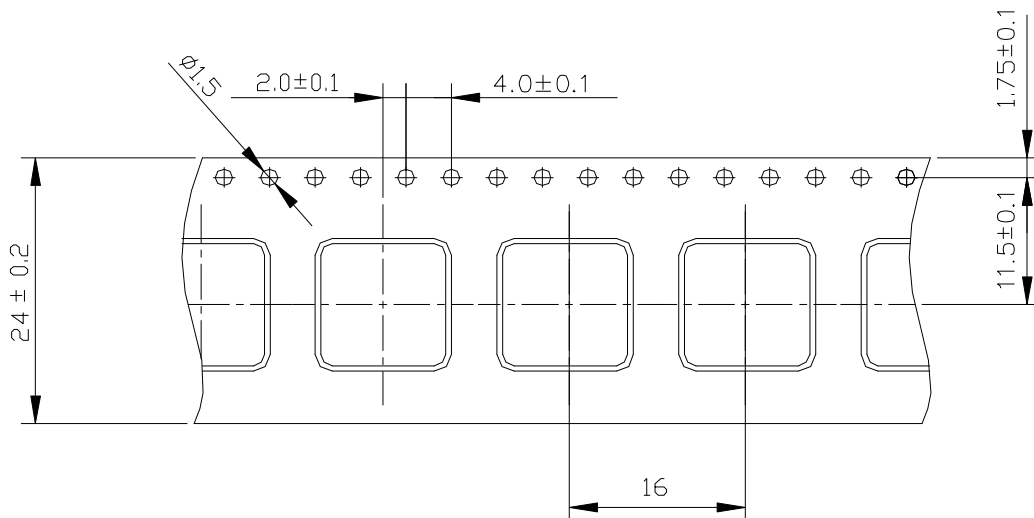
TEST ITEM	SPECIFICATION	TEST DETAILS
Insulation resistance	There shall be no other damage or problems.	<p>DC 100V voltage shall be applied across this sample of top surface and the terminal.</p> <p>The insulation resistance shall be more than $1 \times 10^8 \Omega$.</p>
Dielectric withstand voltage	There shall be no other damage or problems.	<p>AC 100V voltage shall be applied for 1 minute across the top surface and the terminal of this sample</p>
Temperature characteristics	$\Delta L/L20^\circ \leq \pm 10\%$ 0 ~ 2000 ppm/°C	<p>The test shall be performed after the sample has stabilized in an ambient temperature of -20 to +85°C, and the value calculated based on the value applicable in a normal temperature and normal humidity shall be $\Delta L/L20^\circ \leq \pm 10\%$.</p>

ENVIROMENT CHARACTERISTICS

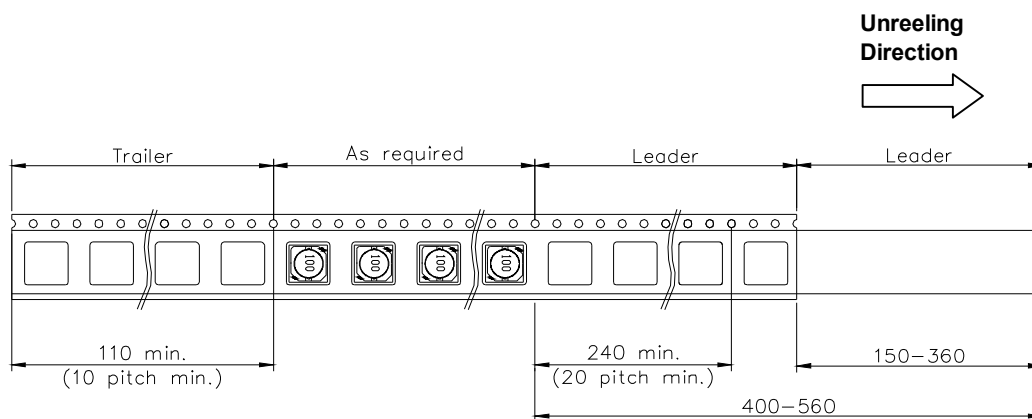
TEST ITEM	SPECIFICATION																
High temperature storage	$\Delta L/L_o \leq \pm 5\%$ There shall be no mechanical damage.	The sample shall be left for 96 ± 4 hours in an atmosphere with a temperature of $85 \pm 2^\circ\text{C}$ and a normal humidity. Upon completion of the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.															
Low temperature storage	$\Delta L/L_o \leq \pm 5\%$ There shall be no mechanical damage.	The sample shall be left for 96 ± 4 hours in an atmosphere with a temperature of $-25 \pm 3^\circ\text{C}$. Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.															
Change of temperature	$\Delta L/L_o \leq \pm 5\%$ There shall be no other damage of problems	The sample shall be subject to 5 continuous cycles, such as shown in the table 2 below and then it shall be subjected to standard atmospheric conditions for 1 hour, after which measurement shall be made. <div style="text-align: center; margin-top: 10px;"> table 2 </div> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th><th>Temperature</th><th>Duration</th></tr> </thead> <tbody> <tr> <td>1</td><td>$-25 \pm 3^\circ\text{C}$ (Thermostat No.1)</td><td>30 min.</td></tr> <tr> <td>2</td><td>Standard atmospheric</td><td>No.1→No.2</td></tr> <tr> <td>3</td><td>$85 \pm 2^\circ\text{C}$ (Thermostat No.2)</td><td>30 min.</td></tr> <tr> <td>4</td><td>Standard atmospheric</td><td>No.2→No.1</td></tr> </tbody> </table>		Temperature	Duration	1	$-25 \pm 3^\circ\text{C}$ (Thermostat No.1)	30 min.	2	Standard atmospheric	No.1→No.2	3	$85 \pm 2^\circ\text{C}$ (Thermostat No.2)	30 min.	4	Standard atmospheric	No.2→No.1
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4	Standard atmospheric	No.2→No.1															
Moisture storage	$\Delta L/L_o \leq \pm 5\%$ There shall be no mechanical damage.	The sample shall be left for 96 ± 4 hours in a temperature of $40 \pm 2^\circ\text{C}$ and a humidity(RH) of 90~95%. Upon completion of the test, the measurement shall be made after the sample has been left in a normal temperature and normal humidity more than 1 hour.															
Test conditions : The sample shall be reflow soldered onto the printed circuit board in every test.																	

PACKAGING

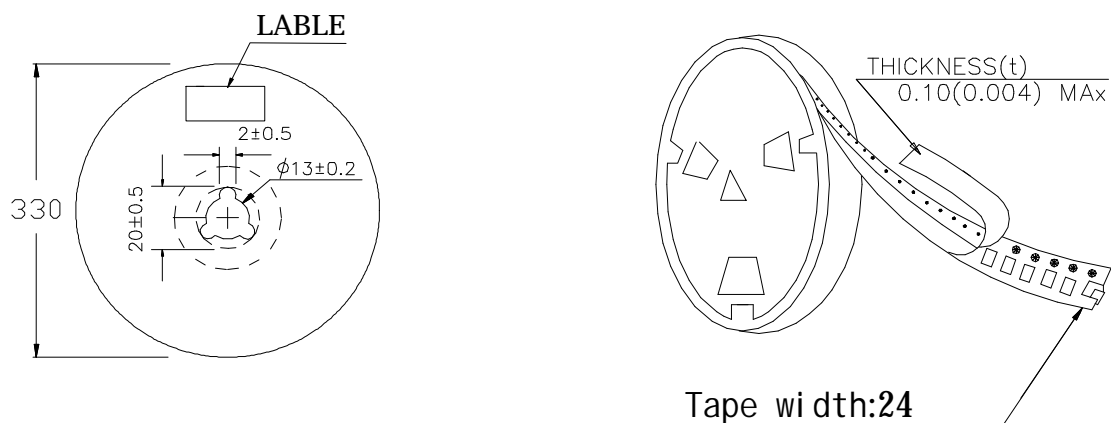
CARRIER TAPE DIMENSIONS (mm)



TAPING DIMENSIONS (mm)



REEL DIMENSIONS (mm)



Packing Quantity: 750pcs/Reel