

## CDRH127NPD-470MT

Wire Wound SMD Power Inductors

### 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.

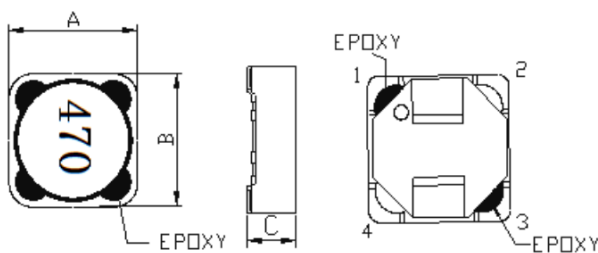
### Explanation of Part Number

CDRH 127NPD -470 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: 470 = 47uH
- ◆ 5:Tolerance of Inductance:M: $\pm 20\%$
- ◆ 6:Packing:Tape Carrier Package

### Dimensions: [mm]

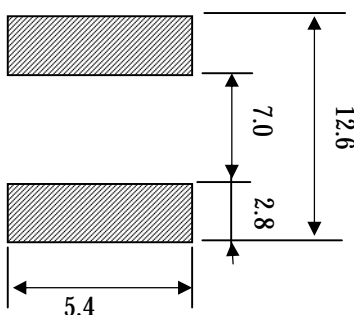


A:  $12.0 \pm 0.5$  mm

B:  $12.0 \pm 0.5$  mm

C: 8.00 Max. mm

### LAND PATTERN DIMENSIONS: [mm]



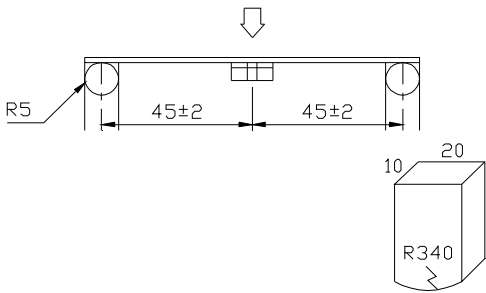
## Electrical Properties:

MetalLions PT/NO.	Inductance L( $\mu$ H)	Test Frequency	Resistance RDC(m $\Omega$ ) Max.	Isat (A)Max	Marking
CDRH127NPD-470MT	47 $\pm$ 20%	100kHz/0.25V	100	2.5	470

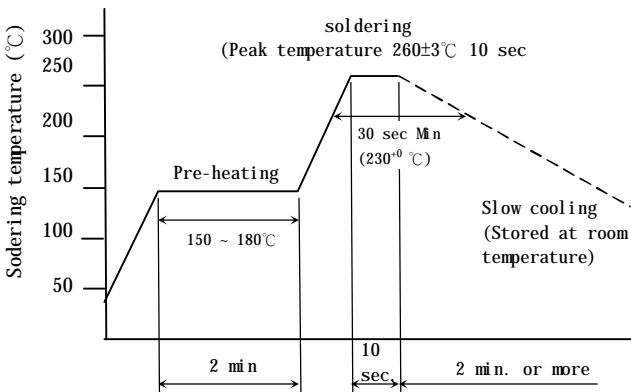
※ Isat : Based on inductance change ( $\Delta$ L/Lo : drop 25% Max)

## 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><b>Temperature profile of reflow soldering</b></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

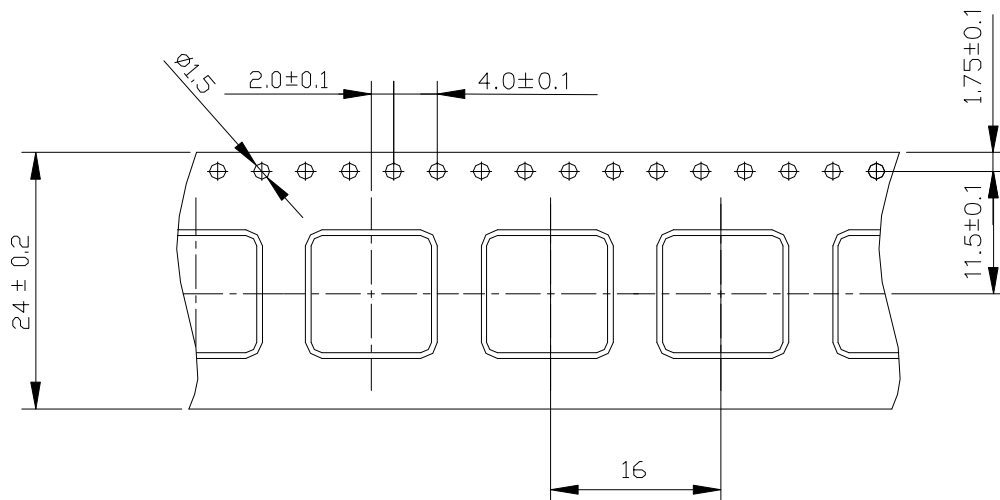
TEST ITEM	SPECIFICATION	TEST DETAILS
Insulation resistance	There shall be no other damage or problems.	<p>DC 100V voltage shall be applied across this sample of top surface and the terminal.</p> <p>The insulation resistance shall be more than <math>1 \times 10^8 \Omega</math>.</p>
Dielectric withstand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

## ENVIROMENT CHARACTERISTICS

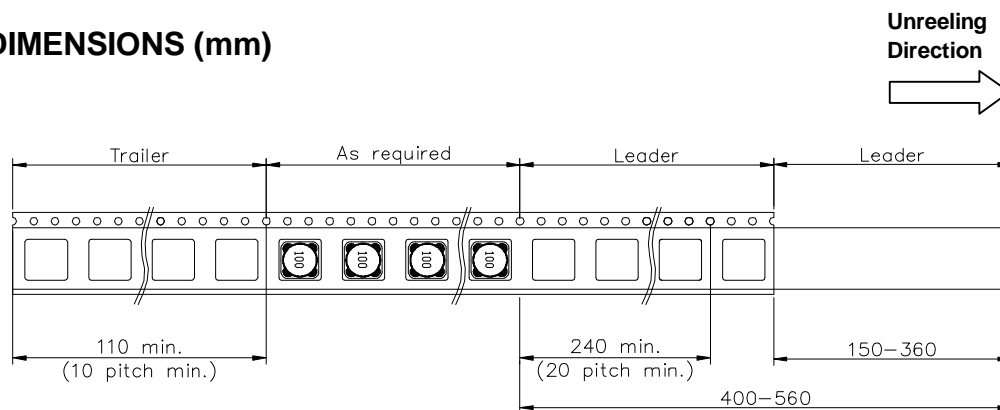
TEST ITEM	SPECIFICATION																
High temperature storage	$\Delta L/L_0 \leq \pm 5\%$  There shall be no mechanical damage.	The sample shall be left for $96 \pm 4$ hours in an atmosphere with a temperature of $85 \pm 2^\circ\text{C}$ and a normal humidity.  Upon completion of the measurement shall be made after the sample has been left in a normal temperature and normal humidity for 1 hour.															
Low temperature storage	$\Delta L/L_0 \leq \pm 5\%$  There shall be no mechanical damage.	The sample shall be left for $96 \pm 4$ 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	$\Delta L/L_0 \leq \pm 5\%$  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><math>-25 \pm 3^\circ\text{C}</math> (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><math>85 \pm 2^\circ\text{C}</math> (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	$\Delta L/L_0 \leq \pm 5\%$  There shall be no mechanical damage.	The sample shall be left for $96 \pm 4$ 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.															
<b>Test conditions :</b>  The sample shall be reflow soldered onto the printed circuit board in every test.																	

## PACKAGING

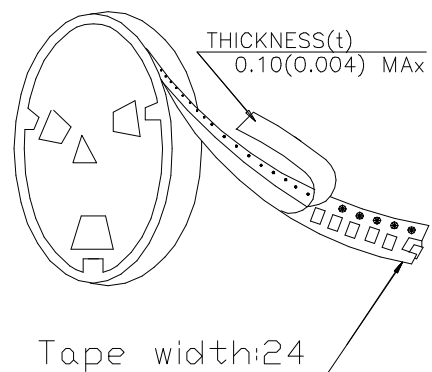
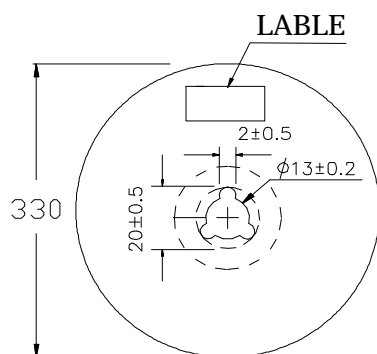
### CARRIER TAPE DIMENSIONS (mm)



### TAPING DIMENSIONS (mm)



### REEL DIMENSIONS (mm)



Packing Quantity: 500pcs/Reel