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## SPECIFICATION FOR APPROVAL

CUSTOMER \_\_\_\_\_  
 CERTIFIED \_\_\_\_\_  
 MODEL/TYPE \_\_\_\_\_  
 PART NO. PLA03151NP8D2XFA(RoHS) \_\_\_\_\_  
 APPLICATION \_\_\_\_\_  
 CUSTOMER P/N \_\_\_\_\_  
 ISSUE DATE Dec.12.2018 \_\_\_\_\_  
 REV. NO. \_\_\_\_\_  
 REV. DATE \_\_\_\_\_

FOR CUSTOMER APPROVAL	CHECKED BY
	<i>Haili Gong</i>
	APPROVED BY
	<i>Huaifang Zhang</i>





**REVISED RECORD SHEET**

REV. NO	REV. DATE	REVISED CONTENT



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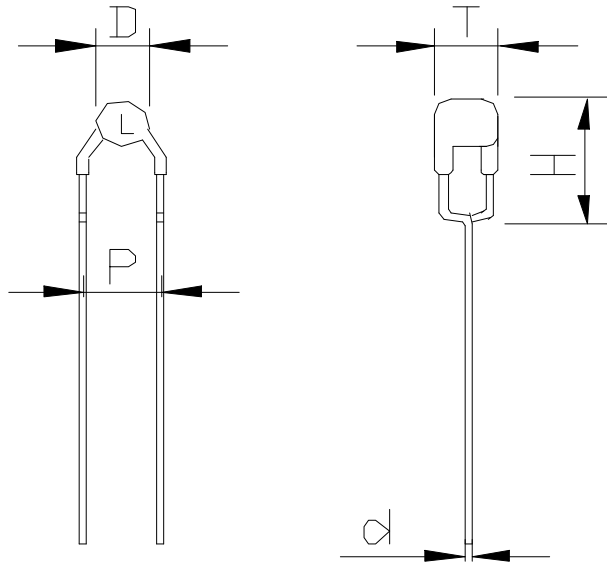
Part Number Code

Example :

**PL**    **A**    **03**    **151**    **N**    **P8**    **D2**    **X**    **FA**  
 (1)    (2)    (3)    (4)    (5)    (6)    (7)    (8)    (9)

No.	Item	Digit	Specification
(1)	Product Type	PL	Thinking PTC thermistor for switching type
(2)	Type Series	A	Lead type
(3)	Body Size	03	φ3mm
(4)	Resistance (R <sub>25</sub> )	151	15*10 <sup>1</sup> Ω=150Ω
(5)	Tolerance of R <sub>25</sub>	N	±30%
(6)	Curie Temperature	P8	80°C
(7)	Withstanding Voltage	D2	420V
(8)	Packaging	X	RoHS compliance &Taping & Ammo Box
(9)	Optional Suffix	FA	Silicon coating

Structure and Dimensions



( unit : mm )

Item	D	T	P	d	H
Max.	4.5	4.5	6.0	0.52	8.5
Min.	2.0	3.0	4.0	0.48	---

Electrical Characteristics

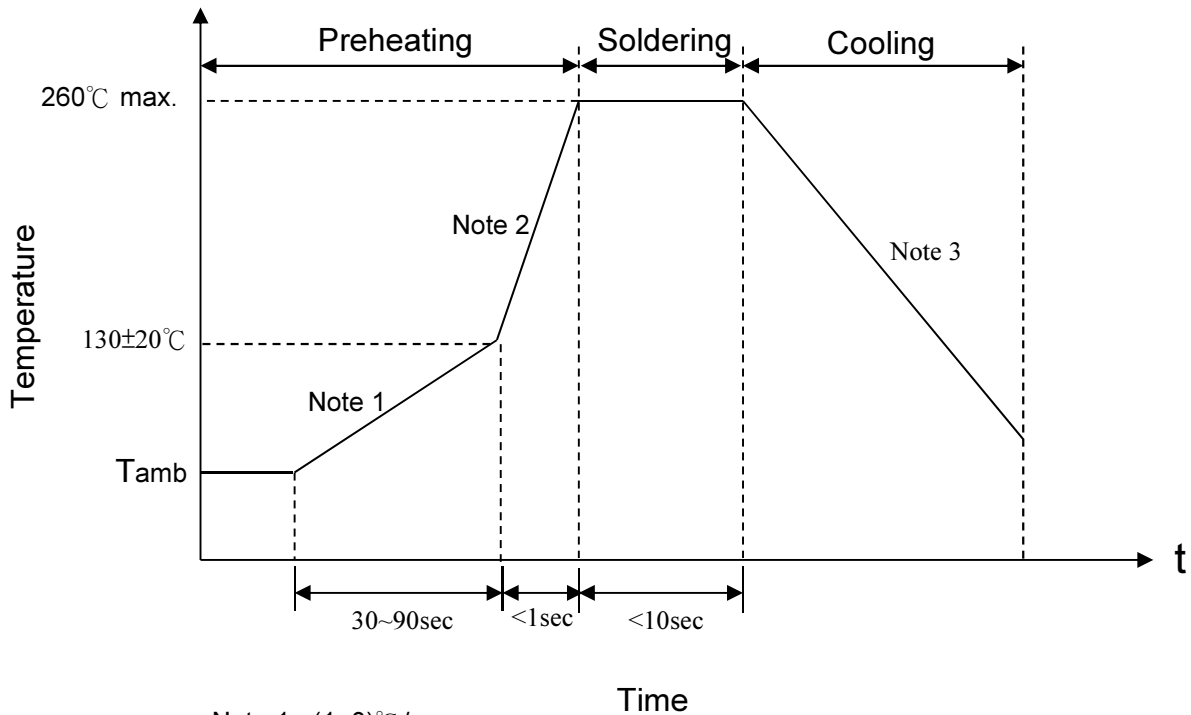
Part No.	Curie Temperature	Zero-power Resistance at 25±1/2°C	Withstanding Voltage	Max. Current	Rated Voltage	Max. Voltage	Operating Temperature Range (V=Vmax)	Operating Temperature Range (V=0)
	T <sub>c</sub> (°C)	R <sub>25</sub> (Ω)	V <sub>w</sub> (V)	I <sub>max</sub> (mA)	V <sub>R</sub> (V)	V <sub>max</sub> (V)	(°C)	(°C)
PLA03151NP8D2XFA	80±10	150±30%	420	200	220	270	0~+60	-25~+125

Reliability

Item	Standard	Test conditions / Methods	Specifications															
Robustness of Terminations	IEC 60738-1	Gradually apply the specified force and keep the unit fixed for 10±1 sec.  <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Terminal diameter (mm)</td> <td style="text-align: center;">Force T±10% (N)</td> </tr> <tr> <td style="text-align: center;">0.35&lt;d≤0.5</td> <td style="text-align: center;">5.0</td> </tr> <tr> <td style="text-align: center;">0.5&lt;d≤0.8</td> <td style="text-align: center;">10.0</td> </tr> <tr> <td style="text-align: center;">0.8&lt;d≤1.25</td> <td style="text-align: center;">20.0</td> </tr> </table>	Terminal diameter (mm)	Force T±10% (N)	0.35<d≤0.5	5.0	0.5<d≤0.8	10.0	0.8<d≤1.25	20.0	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage							
Terminal diameter (mm)	Force T±10% (N)																	
0.35<d≤0.5	5.0																	
0.5<d≤0.8	10.0																	
0.8<d≤1.25	20.0																	
Solderability	IEC 60738-1	245 ± 3 °C , 2± 0.5sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	IEC 60738-1	260 ± 3 °C , 10 ± 1 sec	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage															
Vibration	IEC 60738-1	Frequency range:10~55Hz Amplitude:0.75mm or 98m/S <sup>2</sup> Direction:3 mutually perpendicular directions Duration :6HRS(3x2HRS)	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage															
Shock	IEC 60738-1	Wave:half-sine ΔV:1.0m/s Acceleration:50m/s <sup>2</sup> Plus time : 30ms	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage															
Rapid Change of Temperature	IEC 60738-1	The thermal shock conditions shown below shall be repeated 5 cycles  <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Step</th> <th>Temperature(°C)</th> <th>Period(minutes)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">-40 ± 5</td> <td style="text-align: center;">30 ± 3</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">Room temperature</td> <td style="text-align: center;">5 ± 3</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">85 ± 5</td> <td style="text-align: center;">30 ± 3</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Room temperature</td> <td style="text-align: center;">5 ± 3</td> </tr> </tbody> </table>	Step	Temperature(°C)	Period(minutes)	1	-40 ± 5	30 ± 3	2	Room temperature	5 ± 3	3	85 ± 5	30 ± 3	4	Room temperature	5 ± 3	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage
Step	Temperature(°C)	Period(minutes)																
1	-40 ± 5	30 ± 3																
2	Room temperature	5 ± 3																
3	85 ± 5	30 ± 3																
4	Room temperature	5 ± 3																
Climatic Sequence	IEC 60738-1	Dry heat: 125 °C for 16 hrs Damp heat first cycle: 40°C, 95% R.H, cycle time: 24 hrs Cold: -25°C for 2 hrs Damp heat (cyclic), remaining cycles: 5 cycles Test according to IEC60068-2-30	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage															
Damp Heat, Steady State	IEC 60738-1	40±2°C, 90~95% RH, for 1000±2hrs	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage															
Endurance at maximum operating temperature and maximum voltage	IEC 60738-1	UCT=60°C, 270Vac, I ≤ I <sub>max</sub> for 1000±2hrs.	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage															
Endurance at maximum voltage	IEC 60738-1	25±5°C, 270Vac, I ≤ I <sub>max</sub> 1min. on and 5min. Off ×10,000 cycles	$ \Delta R_{25}/R_{25}  \leq 20\%$ No visible damage															

## Soldering Recommendation

### ■ Wave Soldering Profile



- Note 1 :  $(1 \sim 3)^{\circ}\text{C/sec}$   
 Note 2 : Approx.  $200^{\circ}\text{C/sec}$   
 Note 3 :  $5^{\circ}\text{C/sec Max}$

### ■ Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	$360^{\circ}\text{C (max.)}$
Soldering Time	3 sec (max.)
Distance from Thermistor	2 mm (min.)

### RoHS Compliant Declaration

We hereby declare that the components delivered to your company are compliant with RoHS directive 2015/863/EU.

### Warehouse Storage Conditions of Products

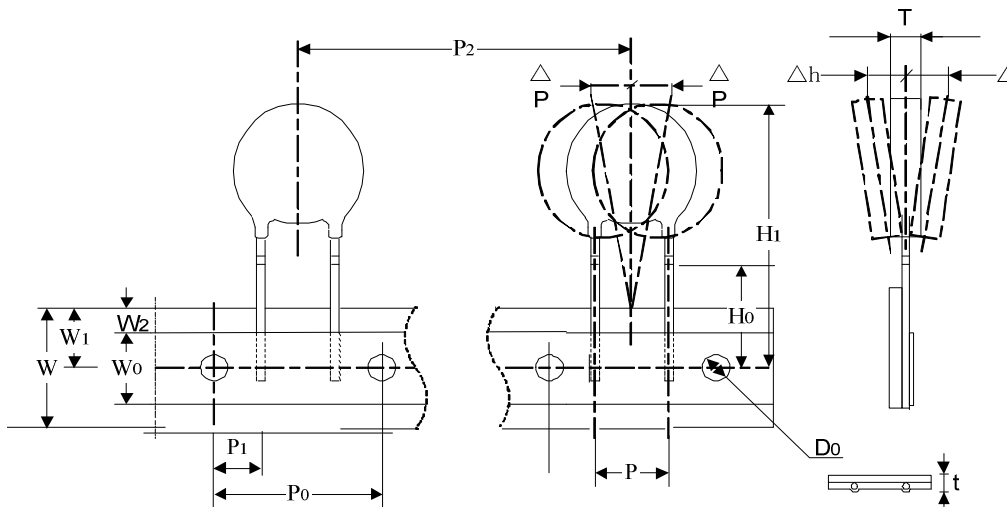
(I) Storage Conditions :

- 1.Storage Temperature :  $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$
- 2.Relative Humidity :  $\leq 75\%RH$
- 3.Keep away from corrosive atmosphere and sunlight.

(II) Period of Storage : 1 year



Taping and Dimensions

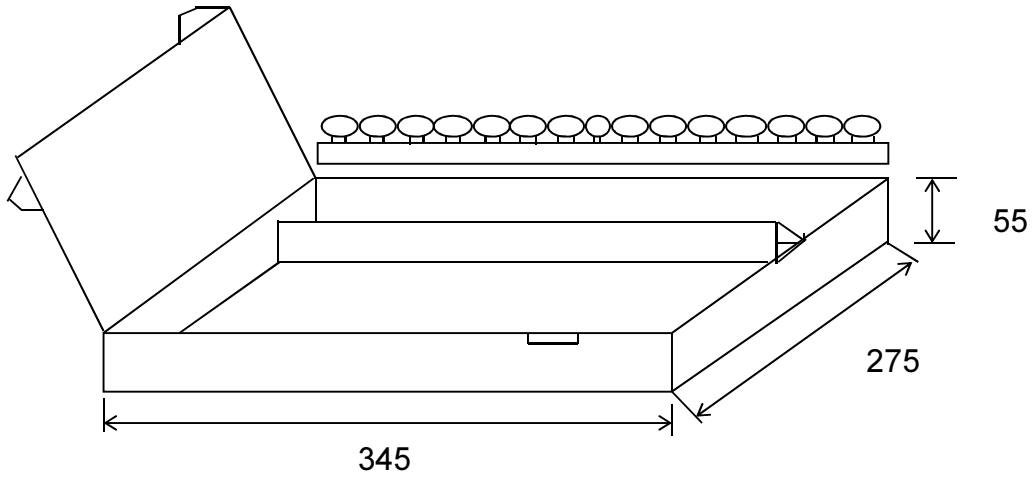


( unit : mm )

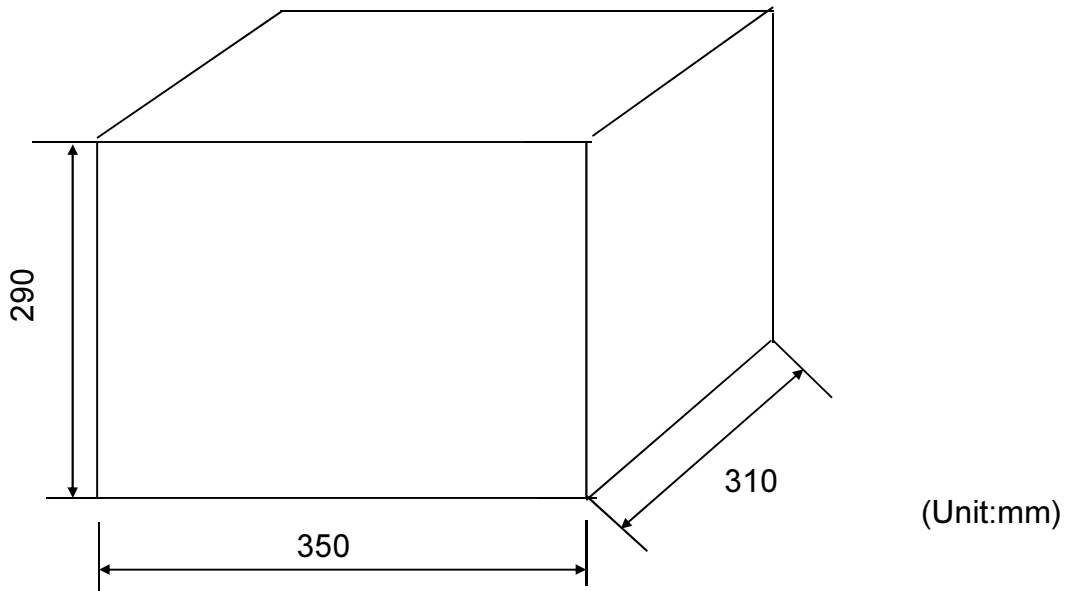
ITEM	P <sub>0</sub>	P	P <sub>1</sub>	H <sub>0</sub>	W <sub>0</sub>	W <sub>1</sub>	W	W <sub>2</sub> max	T	ΔP max	Δh max	D <sub>0</sub>	t	P <sub>2</sub>	H1 max
Nor.	12.7	5	3.85	16	11.5	9	18	3	3.75	1.0	2.0	4	0.6	12.7	25
ToL.	±0.3	±1	±1	±0.5	±1.5	±1	±1	---	±0.75	---	---	±0.2	±0.2	±1	---

### Standard Packing

(1) : Quantity (1500pcs / Ammo Box)



(2) : Quantity (5 Ammo Box / Carton)





Certificates

- (1) IATF 16949 certificate
- (2) ISO 9001 certificate

Test Report

- (1) RoHS test report

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[PTGL12AR1R2H2B51B0](#) [PTGL10AR3R9M3P51B0](#)