

THINKING ELECTRONIC INDUSTRIAL CO., LTD.

HEAD OFFICE: 12F, No.93, Dashun 1st Rd., Zuoying Dist., Kaohsiung, Taiwan

TEL: 886-7-5577660 FAX: 886-7-5570560

MANUFACTURING SITE

- ☐ KAOHSIUNG FACTORY 1: No. 51, Kaifa Rd., N.E.P.Z, Kaohsiung City 81170, Taiwan
TEL: 886-7-9616668 FAX: 886-7-9616698
- ☐ KAOHSIUNG FACTORY 2: No. 2-2, Xinjian S. Rd., N.E.P.Z., Kaohsiung City 81170, Taiwan
TEL: 886-7-9630001 FAX: 886-7-3635113
- ☒ CHANGZHOU FACTORY: No.6 Longmen Rd., Wujin High & New-Tech Industrial Development Zone, Changzhou, Jiangsu, China 213161
TEL: 86-519-86578999 FAX: 86-519-86558643
- ☐ DONG GUAN FACTORY: No.45, East Rd., Sha-Tao Dist., Chang-An Town, Dongguan City, Guangdong, China 523863
TEL: 86-769-85542016 FAX: 86-769-85546890
- ☐ YICHANG FACTORY: No. 283 Xiaoting Avenue, Xiaoting Dist., Yichang City 443007, Hubei, China
TEL: 86-717-6510010 FAX: 86-717-6511430



SPECIFICATION FOR APPROVAL

CUSTOMER	Hoei
CERTIFIED	
MODEL/TYPE	
PART NO.	PLA04331NA2E0XFB(RoHS)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	May.16.2019
REV. NO.	
REV. DATE	

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





REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT



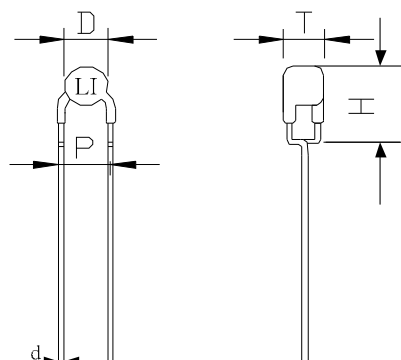
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Part Number Code

Example :

PL **A** **04** **331** **N** **A2** **E0** **X** **FB**
 (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	04	φ4mm
(4)	Resistance (R ₂₅)	331	$33 \times 10^1 \Omega = 330 \Omega$
(5)	Tolerance of R ₂₅	N	±30%
(6)	Curie Temperature	A2	120°C
(7)	Withstanding Voltage	E0	500V
(8)	Packaging	X	RoHS compliance & Taping & Ammo Box
(9)	Optional Suffix	FB	Silicon coating

Structure and Dimensions

(unit : mm)

Item	D	T	P	d	H
Max.	5.5	4.5	6.0	0.62	9.5
Min.	4.0	3.5	4.0	0.58	---

Electrical Characteristics

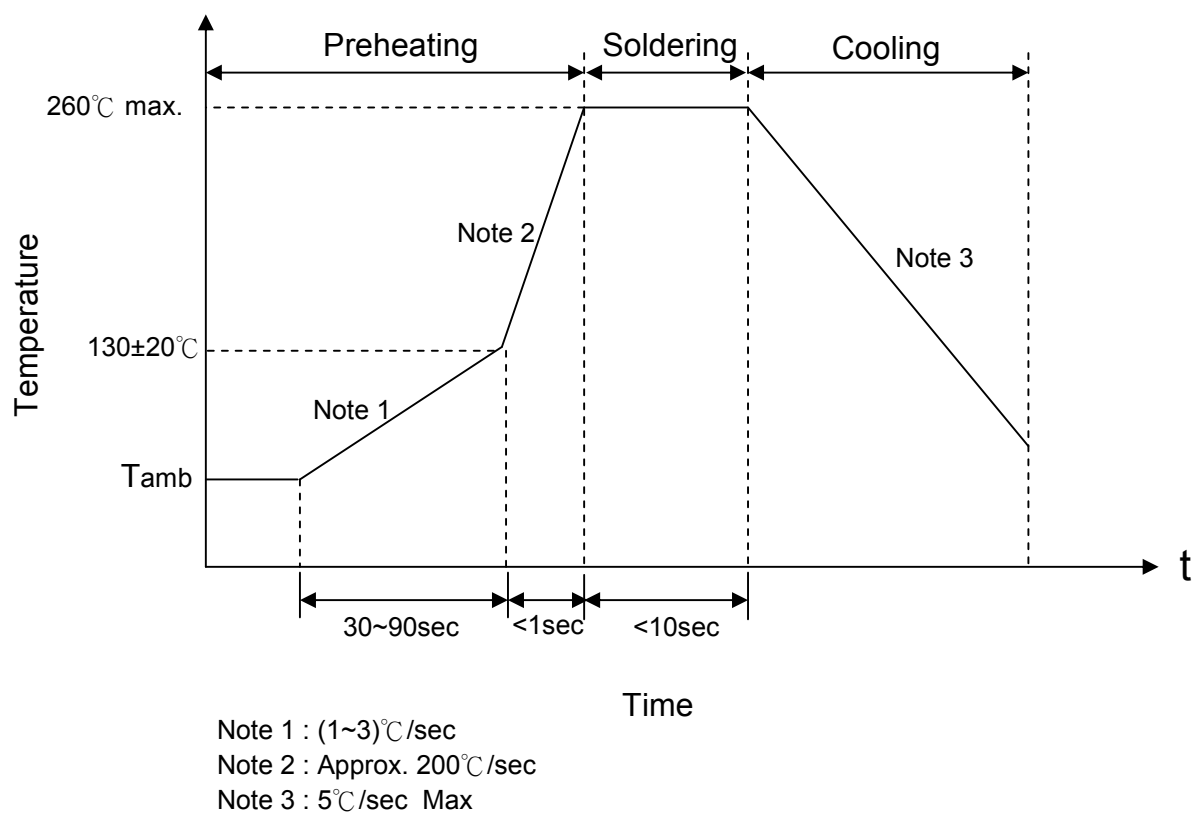
Part No.	Curie Temp.	Zero-power Resistance at 25±2℃	Withstanding Voltage	Max. Current	Operating Temperature Range (V=Vmax)	Operating Temperature Range (V=0)
	T _c (℃)	R ₂₅ (Ω)	V _w (V)	I _{max} (A)	(℃)	(℃)
PLA04331NA2E0XFB	120±10	330±30%	500	0.3	0~+60	-25~+125

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><tr><th>Terminal diameter (mm)</th><th>Force T±10% (N)</th></tr><tr><td>0.35<d≤0.5</td><td>5.0</td></tr><tr><td>0.5<d≤0.8</td><td>10.0</td></tr><tr><td>0.8<d≤1.25</td><td>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	ΔR₂₅/R₂₅ ≤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	ΔR₂₅/R₂₅ ≤20% No visible damage															
Vibration	IEC 60738-1	Frequency range:10~55Hz Amplitude:0.75mm or 98m/S ² Direction:3 mutually perpendicular directions Duration :6HRS(3x2HRS)	ΔR₂₅/R₂₅ ≤20% No visible damage															
Shock	IEC 60738-1	Wave:half-sine ΔV:1.0m/s Acceleration:50m/s ² Pulse time:30ms	ΔR₂₅/R₂₅ ≤20% No visible damage															
Rapid Change of Temperature	IEC 60738-1	The thermal shock conditions shown below shall be repeated 5 cycles <table><tr><th>Step</th><th>Temperature(°C)</th><th>Period(minutes)</th></tr><tr><td>1</td><td>-40 ± 5</td><td>30 ± 3</td></tr><tr><td>2</td><td>Room temperature</td><td>5 ± 3</td></tr><tr><td>3</td><td>85 ± 5</td><td>30 ± 3</td></tr><tr><td>4</td><td>Room temperature</td><td>5 ± 3</td></tr></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	ΔR₂₅/R₂₅ ≤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	ΔR₂₅/R₂₅ ≤20% No visible damage															
Damp Heat, Steady State	IEC 60738-1	40±2°C, 90~95% RH, for 1000±2hrs	ΔR₂₅/R₂₅ ≤20% No visible damage															
Endurance at maximum operating temperature and maximum voltage	IEC 60738-1	UCT=60°C, 270Vac, I ≤ I _{max} for 1000±2hrs.	ΔR₂₅/R₂₅ ≤20% No visible damage															
Endurance at maximum voltage	IEC 60738-1	25±5°C, 270Vac, I ≤ I _{max} 1min. on and 5min. Off ×10,000 cycles	ΔR₂₅/R₂₅ ≤20% No visible damage															

Soldering Recommendation

■ Wave Soldering Profile



■ Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360°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.

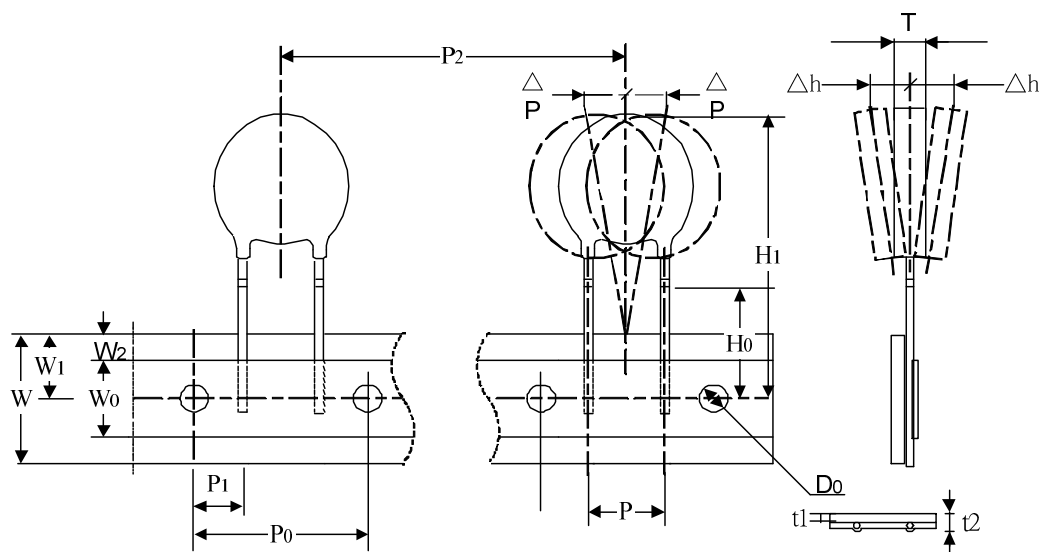
Warehouse Storage Conditions of Products

(I) Storage Conditions :

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

(II) Period of Storage : 1 year

Taping and Dimensions

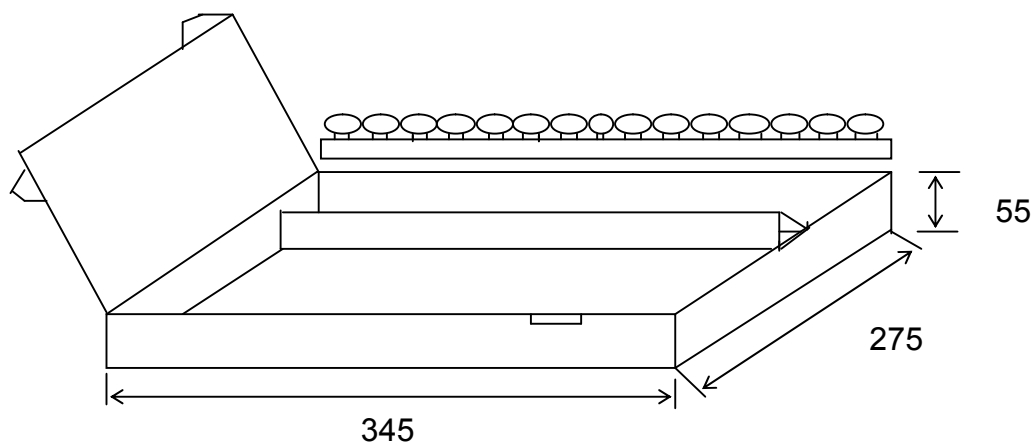


(unit : mm)

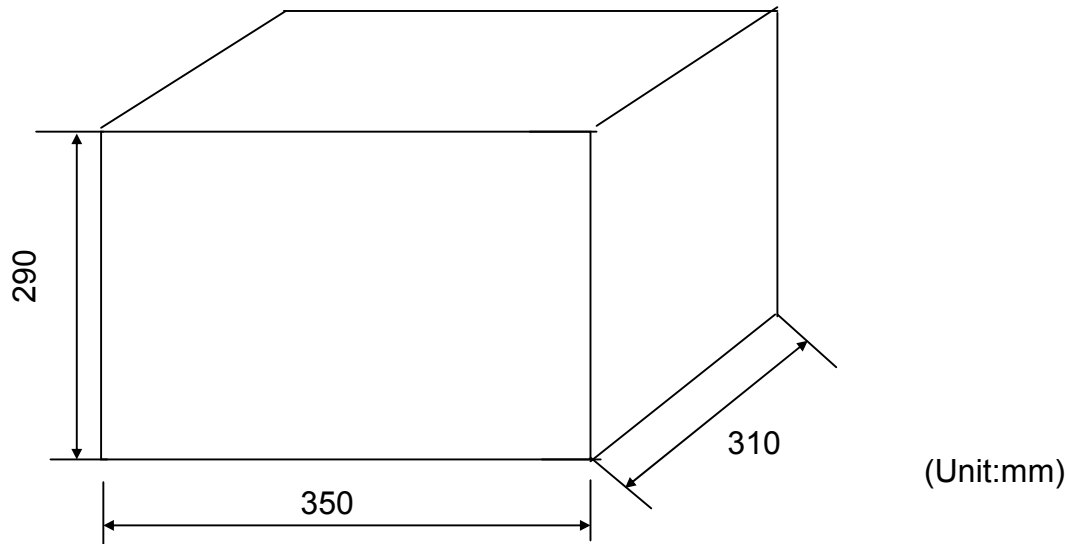
ITEM	P ₀	P	P ₁	H ₀	W ₀	W ₁	W ₂ max	W	T	ΔP max	Δh max	D ₀	t	P ₂	H ₁ max
Nor.	12.7	5	3.85	16	12	9	3	18	4	1.0	2.0	4	0.6	12.7	26
ToL.	±0.3	±1	±1	±0.5	±1.5	±1	---	±1	±0.5	---	---	±0.2	±0.2	±1	---

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