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SPECIFICATION FOR APPROVAL

CUSTOMER

CERTIFIED
MODEL/TYPE

PPL05251-A2D0

PART NO.

PPL05251MA2D0YFB(RoHS)

APPLICATION

CUSTOMER P/N

ISSUE DATE

Jul.29.2019

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



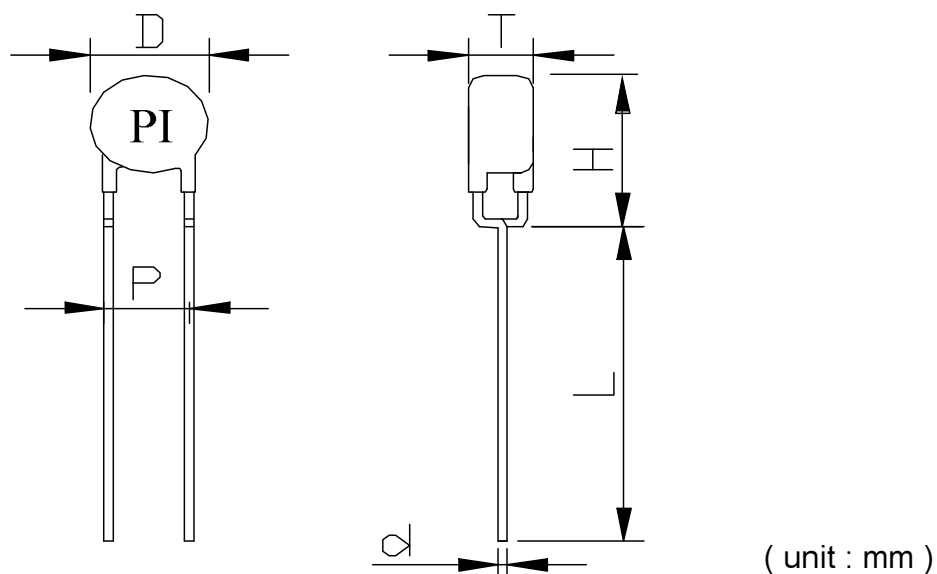
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Part Number Code

Example :

PP **L** **05** **251** **M** **A2** **D0** **Y** **KB**
(1) (2) (3) (4) (5) (6) (7) (8) (9)

No.	Item	Digit	Specification
(1)	Product Type	PP	Thinking overload protection PP type
(2)	Type Series	L	Lead type
(3)	Size	05	φ05 mm
(4)	Resistance(R_{25})	251	$25 \times 10^1 = 250\Omega$
(5)	Tolerance of R_{25}	M	$\pm 20\%$
(6)	Curie Temperature	A2	120°C typ.
(7)	Rated Voltage	D0	400V
(8)	Packaging	Y	RoHS compliance & Bulk
(9)	Optional Suffix	KB	Silicon coating

Structure and Dimensions

Item.	D	T	H	P	d	L
Max	7.0	5.0	10.5	6.0	0.62	---
Min	4.5	2.5	---	4.0	0.58	25.0

Electrical Characteristics

Part No.	Curie Temperature	Zero-power Resistance at 25+/-2°C	Rated Voltage	Breakdown Voltage	Max. Current
	T _c (°C)	R ₂₅ (Ω)	V _R (V)	V _b (Vac)	I _{max} (A)
PPL05251MA2D0YFB	120typ	250±20%	400	>700	0.3

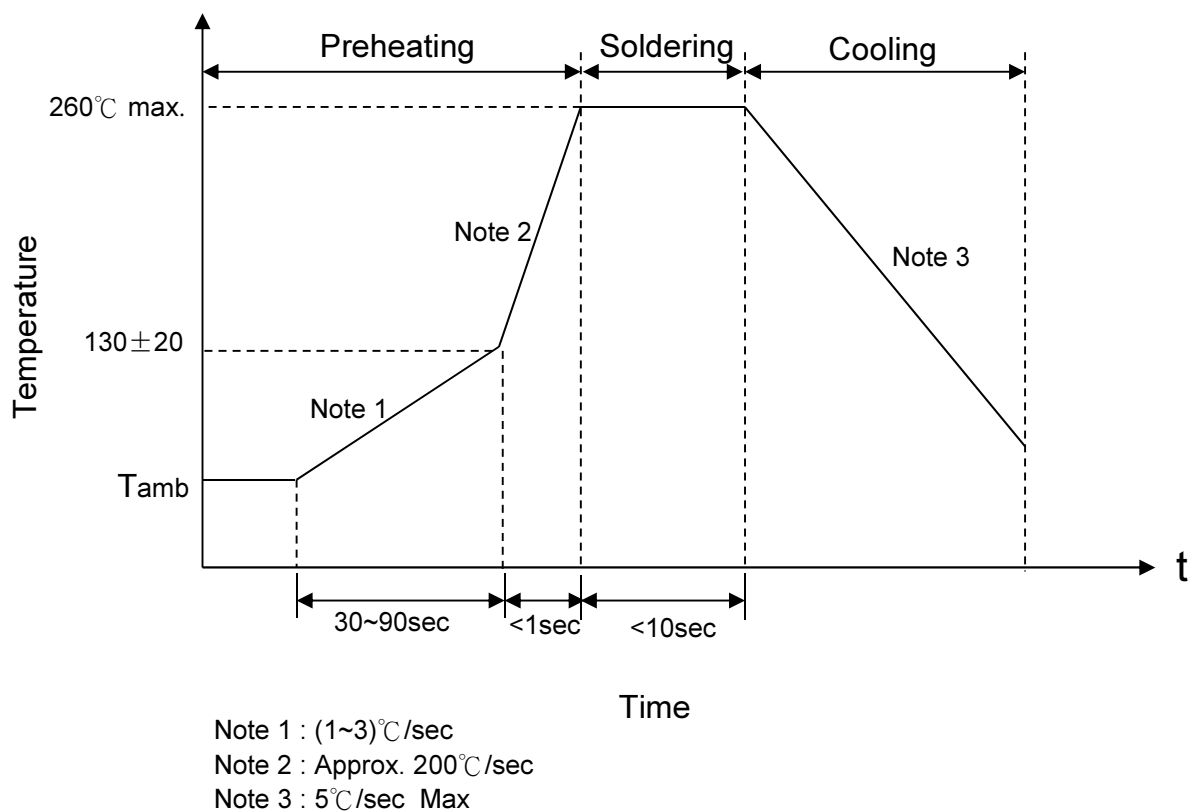
Part No.	Trip Current at 25±2°C	Non-operating Current at 25±2°C	Operating Temperature Range (V=V _{max})	Operating Temperature Range (V=0)
	I _t (mA)	I _N (mA)	(°C)	(°C)
PPL05251MA2D0YFB	65	32	0~60	-25~+125

Reliability

Item	Standard	Test conditions / Methods	Specifications															
Robustness of Terminations	IEC 60738-1	Gradually apply the specified force and keep the unit fixed for10±1 sec. <table><tr><td>Terminal diameter (mm)</td><td>Force T(N)</td></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(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(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± 0.5 sec	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><td>Step</td><td>Temperature(°C)</td><td>Period(minutes)</td></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: -40°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,1000±2hrs	ΔR₂₅/R₂₅ ≤20% No visible damage															
Endurance at Maximum Operating Temperature and Maximum Voltage	IEC 60738-1	UCT=60°C , VR, It≤ I ≤ Imax , 1000±2hrs	ΔR₂₅/R₂₅ ≤20% No visible damage															
Endurance at Maximum Voltage	IEC 60738-1	25±5°C , VR, It ≤ I ≤ Imax 1min. on and 5min. Off ×100cycles	ΔR₂₅/R₂₅ ≤20% No visible damage															

Soldering Recommendation

■ Wave Soldering Profile



■ Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	$360^{\circ}\text{C (max.)}$
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 : $\leq 75\% \text{RH}$
- 3.Keep away from corrosive atmosphere and sunlight.

(II) Period of Storage : 1 year

Safety Approvals (Certified Model/Type :PPL05251-A2D0)



* UL 1434 / cUL recognized (File # E138827)

Certificates

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

Test Report

- (1) RoHS test report