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SPECIFICATION FOR APPROVAL

CUSTOMER	Ozdisan-Gulten
CERTIFIED MODEL/TYPE	PPL11151-A2C8
PART NO.	PPL11151HA2C8C8P(RoHS)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	Feb.13.2019
REV. NO.	
REV. DATE	

FOR CUSTOMER APPROVAL	CHECKED BY
	Haili Gong
	APPROVED BY
	Huaifang Zhang

REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT

INDEX

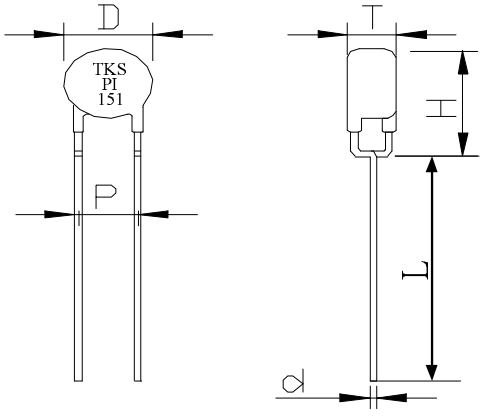
Part Number Code

Example :

PP	L	11	151	H	A2	C8	C	8P
(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	11	φ11mm
(4)	Resistance(R_{25})	151	$15*10^{1}\Omega$=150 Ω
(5)	Tolerance of R_{25}	H	±25%
(6)	Curie Temperature	A2	Refer to"Optional Suffix"
(7)	Rated Voltage	C8	Refer to"Optional Suffix"
(8)	Packaging	C	RoHS compliance&Bulk
(9)	Optional Suffix	8P	Silicon coating Refer to"Electrical Characteristics" See Page 2

Structure and Dimensions



(unit : mm)

Item.	D	T	H	L	P	d
Max	13.0	7.5	18	---	6.0	0.62
Min	10.5	5.5	---	25.0	4.0	0.58

Electrical Characteristics

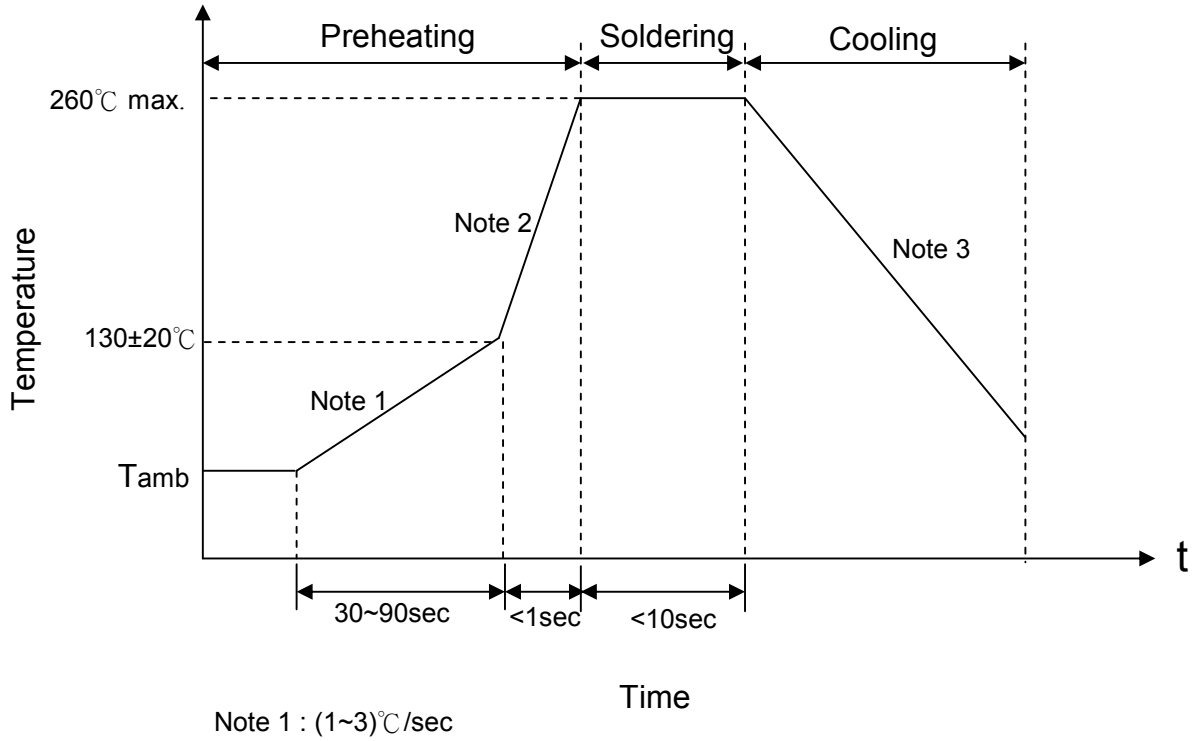
Part No.	Curie Temperature	Zero-power Resistanceat 25+/-2℃	Max. Voltage	Non-operating Energy at 60℃	Thermal Capacity	Max. Voltage	Operating Temperature Range (V=Vmax)	Operating Temperature Range (V=0)
	Tc (℃)	R_{25} (Ω)	Vmax (Vac)	ENon60(J)	Cth(J/K)	Vlink，max (Vdc)	(℃)	(℃)
PPL11151HA2C8C8P	115(typ)	150±25%	440	54(typ)	1.4(typ)	620	-20~+85	-40~+125

Reliability

<table>
<tr><th>Item</th><th>Standard</th><th>Test conditions / Methods</th><th>Specifications</th></tr>
<tr><td>Robustness of Terminations</td><td>IEC 60738-1</td><td>Gradually apply the specified force and keep the unit fixed for 10±1 sec.
<table><tr><th>Terminal diameter (mm)</th><th>Force T(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></td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Solderability</td><td>IEC 60738-1</td><td>245 ± 3 ℃ , 2 ± 0.5 sec</td><td>At least 95% of terminal electrode is covered by new solder</td></tr>
<tr><td>Resistance to Soldering Heat</td><td>IEC 60738-1</td><td>260 ± 3 ℃ , 10 ± 1 sec</td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Vibration</td><td>IEC 60738-1</td><td>Frequency range:10~55Hz
Amplitude:0.75mm or 98m/S^2
Direction:3 mutually perpendicular directions
Duration :6HRS(3x2HRS)</td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Shock</td><td>IEC 60738-1</td><td>Wave:half-sine
⊿V:1.0m/s
Acceleration:50m/s^2
Pulse time:30ms</td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Rapid Change of Temperature</td><td>IEC 60738-1</td><td>The thermal shock conditions shown below shall be repeated 5 cycles
<table><tr><th>Step</th><th>Temperature(℃)</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></td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Climatic Sequence</td><td>IEC60738-1</td><td>Dry heat: 125 ℃ for 16 hrs
Damp heat first cycle: 40℃, 95% R.H ,cycle time: 24 hrs
Cold: -40℃ for 2 hrs
Damp heat (cyclic), remaining cycles: 5 cycles
Test according to IEC60068-2-30</td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Damp Heat, Steady State</td><td>IEC60738-1</td><td>40±2℃,90~95%RH, for 1000±2hrs</td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Endurance at maximum operating temperature and maximum voltage</td><td>IEC60738-1</td><td>85℃, Vmax , for 1000hrs</td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
<tr><td>Endurance Test for Charging of Capacitor</td><td>Specification Standard</td><td>Operating cycles at Vmax, 100,000 cycles
(charging of capacitor)</td><td>$\lvert \triangle R_{25}/R_{25} \rvert \leqq 20\%$
No visible damage</td></tr>
</table>

Soldering Recommendation

■ Wave Soldering Profile



Note 1 : (1~3)℃/sec
Note 2 : Approx. 200℃/sec
Note 3 : 5℃/sec Max

■ Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360℃ (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℃~+40℃

2.Relative Humidity : ≦75%RH

3.Keep away from corrosive atmosphere and sunlight.

(II) Period of Storage : 1 year

Safety Approvals (Certified Model/Type : PPL11151-A2C8)

* UL 1434 / cUL recognized (File # E138827)

Certificates

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

Test Report

(1) RoHS test report