POLYMER PTC RESETTABLE FUSE

TLC Electronic 竞沃电子®
电路保护元器件专业制造商
Web: http://www.tlcet.com.cn

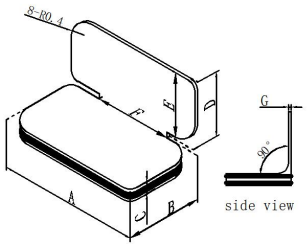
Product: Resettable Fuse
Revision: A
Date: 2018-05-08

Part Number:TAL500-L2

1、Physical Dimensions

Unit:mm

Part Number	A	B	C	D	E	F	G
	Nor.	Nor.	Max.	Nor.	Nor.	Nor.	Nor.
TAL500-L2	7.9±0.2	2.4±0.2	0.7	3.0±0.2	2.7±0.1	4.7±0.1	0.125±0.01



2、Electrical Characteristics

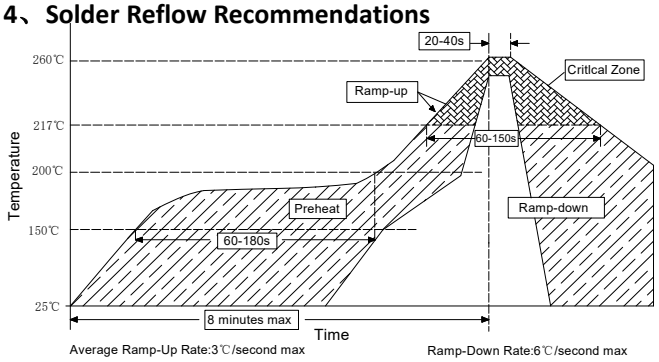
25℃		60℃		V_{max} (V)	I_{max} (A)	TTT (Max time to trip)		Pd_{typ} (W)	REFERENCE RESISTANCE (Ω)		REFERENCE POST REFLOW RESISTANCE (Ω)		REFERENCE POST TRIP RESISTANCE (Ω)	
									25℃		25℃		25℃	
I_H (A)	I_T (A)	I_H (A)	I_T (A)			(A)	(S)		Min.	Max.	Min.	Max.	Min.	Max.
5.0	12.0	2.8	7.8	10	50	25	5.0	1.5	0.001	0.0068	0.001	0.010	0.001	0.018

I_H: Holding Current: maximum current at which the device will not trip in 25℃or 60℃ still air.
I_T: Tripping Current minimum current at which the device will trip in 25℃or 60℃ still air.
V_{max}: Maximum voltage device can withstand without damage at rated current.
I_{max}: Maximum fault current device can withstand without damage at rated voltage.
TTT: Maximum time to trip(s) at assigned current.
Pd_{typ}: Rated working power.
R min: Minimum resistance of device prior to trip at 25℃.
R max: Maximum resistance of device prior to trip at 25℃.
R1 max: Maximum resistance of device is measured one hours post reflow at 25℃.
Noted: All electrical function test is conducted after PCB mounted.

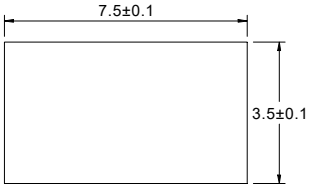
3、Thermal Derating

TAL500-L2	Maximum ambient operating temperature								
	-40℃	-20℃	0℃	25℃	40℃	50℃	60℃	70℃	85℃
Hold Current(A)	8.0	6.8	5.9	5.0	3.90	3.3	2.8	2.0	1.0
Trip Current(A)	19.2	16.8	14.2	12.0	9.9	8.4	7.8	6.4	4.6

4、Solder Reflow Recommendations



Recommended Pad Layout(mm)



Notes:If reflow temperatures exceed the recommended profile,devices may not meet the performance requirements.

5、Package Information

Packing quantity:2000PCS/Reel

Note:Reel packaging per EIA-481-2 standard

6、Agency Recognition：

REACH COMPLIANT · RoHS COMPLIANT · HALOGEN FREE

Caution:Operation beyond the rated voltage or current may result in rupture electrical arcing or flame.Specifications are subject to change without notice.

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Cautions for Strap PTC Use

条状 PTC 使用注意事项

1. Operation beyond the rated maximum voltage or current may result in device damage and possible electrical arcing or flame
请在规格书规定的最大电压和最大电流下使用，超出 PTC 最大电压或最大电流规格值的操作，可能会导致 PTC 出现电弧， 阻值升高，甚至烧片。

2. The Hold current specified at different temperatures in the datasheet is the conventional performance of after one spot welding or injection. PTC can hold 1 hour at the current corresponding to different temperatures. But this current is not the condition that PTC can be charging or discharging current for long time.
规格书所规定的各温度下的 Hold current 均是 PTC 经过一次点焊或注塑后的常规性能，PTC 能够在不同温度对应的电流条件下保持 1 小时。该电流并不是该型号 PTC 能够适用的长期充电或放电电流的条件。

3. All resistance and the electronic characteristics specified in the datasheet are based on the test tested on the specified testing board which is after one spot welding or injection. The applicability needs to be verified because above parameters may be attenuated if customer has reflow process.
规格书所规定的电阻以及电气特性，均是基于在指定测试板经过注塑或点焊之后的测试。 如果客户有回流焊工序，会对上述参数有一定程度的衰减。所以需要验证其适用性。

4. The PTC is thermal sensitive device. It is recommended not to design any heat source devices around it to reduce the outside heat source impact.
PTC 为热敏元件，对环境温度比较敏感，建议在 PTC 周围不要设计热源元件，尽量减少外部热源的影响。

5. The packing of Strap PTC is spot-welding or injection. The spot welding position should not contact PTC directly, and the injection temperature should not be higher than 250 ℃.
条状 PTC 产品是为点焊或注塑封装形式，点焊位置不宜直接接触 PTC,注塑温度不宜高于 250℃。

6. When mounting or using PTC, all injection molding materials, curing adhesives, UV glue , silica gel and cleaning agents or solvents must be tested in terms of application parameters e.g. temperature, time, and etc to ensure the consistency between the product and the processing before use.
PTC 贴装或应用过程中,所使用到的各类注塑料、单组份、双组份固化胶粘剂、硅胶，需要对注塑料胶料等材料牌号以及应用参数（如温度、时间等）进行验证，以确保产品及工艺的匹配性，确认不会影响 PTC 性能之后方可使用。

7. When mounting or using PTC, it is not recommended to use circuit board washer water or other cleaning agent. If cleaning is required, it is necessary to verify the applicability of various cleaning agents, washboard water and solvents, and confirm that they will not affect the PTC performance. The known chemicals that impacts PTC include but not limited to ethers, benzene homolog, ketones, lipids and derivates that is of strong solubleness and ruinous. Please place the product in open environment for at least 24 hours to volatilize solvents residuals.
PTC 贴装或使用过程中，不建议使用洗板水或其他清洗剂进行清洗。如必须使用，需要验证各类清洗剂、洗板水以及溶剂的适用性，确认不会影响 PTC 性能之后方可使用。已知对 PTC 有影响的化学药品包括但不仅限于醚类、苯类、酮类以及脂类等较强溶解性、破坏性的有机化合物。清洗后将产品放置于敞开的环境中至少 24 小时，将残留的溶剂进行充分的挥发。

8. Please do not smash, clamp, pull, dent or twist by tool during assembling process otherwise it might be a cause of the performance degradation.
装配过程中，避免用暴力砸、挤、压、拉、扭、刺等方式作用 PTC 本体，以免引起 PTC 性能衰减。

9. PTC is resettable protection device which shall not be taken for use as switch. Multiple times tripping shall lower the PTC hold current.
PTC 为自恢复保护元件，但并不能当做开关使用，重复多次的保护会降低 PTC 的维持电流。

10. In the application, It is recommended to reserve a certain space for the PTC, the reserved space is recommended not less.than 20% of the PTC thickness.
PTC 在应用中，建议给与 PTC 预留一定的空间，一般建议预留空间不小于 PTC 本体厚度的 20%。

11. The Strap PTC shelf life of the Carbon Black series is 2 years after delivery, and LOWLOW series Strap PTC is 1 years after delivery. Please use it within the corresponding shelf life.
条状炭黑系 PTC 的保质期为出厂后 2 年，低阻系列为出厂后 1 年，请在 PTC 保质期内使用。