

308 Constitution Drive Menlo Park, CA USA www.circuitprotection.com

PolySwitch® PTC Devices

Overcurrent Protection Device

PRODUCT: nanoSMD200LR-2

DOCUMENT: SCD28040

REV LETTER: E

REV DATE: AUGUST 13, 2014

PAGE NO.: 1 OF 2

Specification Status: Released

Maximum Electrical Rating

Voltage: 6.0V_{DC}

Short Circuit Current: 50A

Notes:

Termination Finish: NiAu
 Drawing not to scale
 For battery application only

Marking:

Т

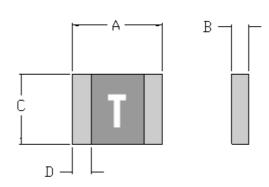


TABLE I. DIMENSIONS:

MIN MIN MAX MIN MAX MAX MIN MAX mm: 3.00 3.43 0.50 1.00 1.37 1.85 0.25 0.75 in: (0.118)(0.135)(0.019) (0.039)(0.054)(0.073)(0.010)(0.030)

TABLE II. PERFORMANCE RATINGS:

TABLE III I EIG GIGINATOE TATTITOO.									
CURRENT RATINGS**						TIME TO TRIP**	RESISTANCE VALUES		TRIPPED-STATE POWER
									DISSIPATION**
AMPE	AMPERES		AMPERES		ERES	SECONDS	OHMS		WATTS AT
AT 0°C		AT 20°C		AT 60°C		AT 20°C, 9.5A	AT 20°C		20°C, 6.0V
HOLD	TRIP	HOLD	TRIP	HOLD	TRIP	MAX	MIN	MAX*	MAX
2.8	8.0	2.0	6.0	1.4	4.0	3.0	.006	.024	1.0

^{*}Maximum resistance is measured 1 hour after reflow.

Agency Recognition: UL, CSA Reference Document: PS300

Precedence: This specification takes precedence over documents referenced herein.

Effectivity: Reference documents shall be the issue in effect on the date of invitation for bid.

CAUTION: Operation beyond the rated voltage or current may result in rupture, electrical arcing or flame.

Materials Information

ROHS Compliant ELV Compliant

Pb-Free

Halogen Free*

Directive 2002/95/EC Compliant Directive 2000/53/EC Compliant



HF

^{**}Values specified were determined using PCB's with 0.025" x 2.0 ounce copper traces.

^{*} Halogen Free refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm.



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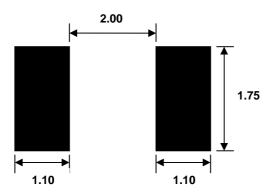
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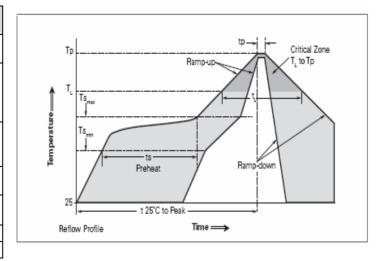
PAGE NO.: 2 OF 2

Recommended pad layout (mm.)



Recommended reflow profile

Profile Feature	Pb-Free Assembly	
Average ramp up rate (Ts _{max} to Tp)	3°C/s max.	
Preheat • Temperature min. (Ts _{min}) • Temperature max. (Ts _{max}) • Time (ts _{min} to ts _{max})	150°C 200°C 60-120s	
Time maintained above: • Temperature (T _L) • Time (t _L)	217°C 60-150s	
Peak/Classification temperature (Tp)	260°C	
Time within 5°C of actual peak temperature (tp)	30s max.	
Ramp down rate	2°C/s max.	
Time 25°C to peak temperature	8 mins max.	



Note: All temperatures refer to top side of the package, measured on the package body surface.

Solder reflow recommendation

- Recommended reflow methods: IR, hot air and Nitrogen
- Recommended maximum solder paste thickness: 0.25mm
- Recommended minimum stencil thickness: 0.1mm
- Devices can be cleaned using standard methods and aqueous solvents.
- TE believes the optimum conditions for forming acceptable solder fillets occur when a reasonable amount of solder paste is placed underneath each device's termination. As such, we request that customers comply with our recommended solder pad layouts.
- Customer should validate that the solder paste amount and reflow recommendations meet its application.
- TE requests that customer board layouts refrain from placing raised features (e.g. vias, nomenclature, traces, etc.) underneath PolySwitch devices. It is possible that raised features could negatively impact solderability performance of our devices.

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