PolySwitch® PTC Devices

Overcurrent Protection Device

PRODUCT: nanoSMD270LR-2

DOCUMENT: SCD28284
REV LETTER: F
REV DATE: JULY 26, 2016

Specification Status: Released

Maximum Electrical Rating

Voltage: 6.0V_{DC}
Short Circuit Current: 50A

Notes:
1. Termination Finish: NiAu
2. Drawing not to scale
3. For battery application only

Marking:
L

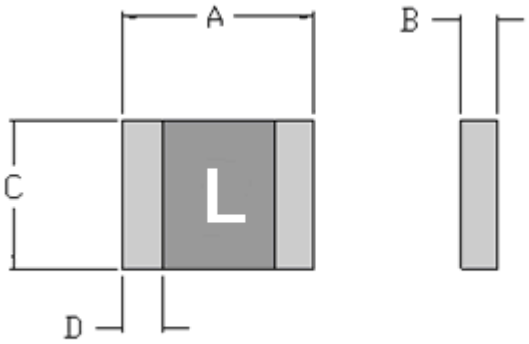


TABLE I. DIMENSIONS:

	A		B		C		D	
	MIN	MAX	MIN	MAX	MIN	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:

CURRENT RATINGS**						TIME TO TRIP**	RESISTANCE VALUES		TRIPPED-STATE POWER DISSIPATION**
AMPERES AT 0°C		AMPERES AT 20°C		AMPERES AT 60°C		SECONDS AT 20°C, 8.0A	OHMS AT 20°C		WATTS AT 20°C, 6.0V
HOLD	TRIP	HOLD	TRIP	HOLD	TRIP	MAX	MIN	MAX*	MAX
3.0	7.5	2.7	6.3	1.6	4.5	5.0	.005	.018	1.0

* Maximum resistance is measured 24 hour after reflow.
**Values specified were determined using PCB's with 0.105"X1.0 ounce copper traces.

Agency Recognition:	UL, CSA, TÜV
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
Directive 2002/95/EC Compliant

ELV Compliant
Directive 2000/53/EC Compliant

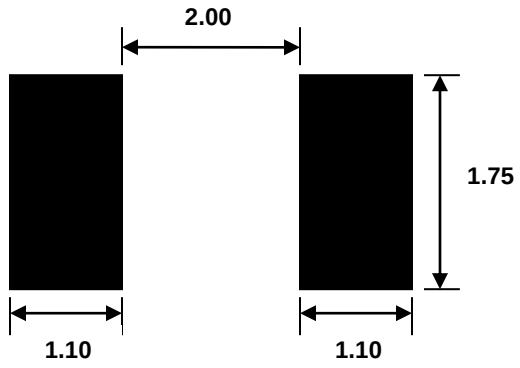
Pb-Free

Halogen Free*
HF

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

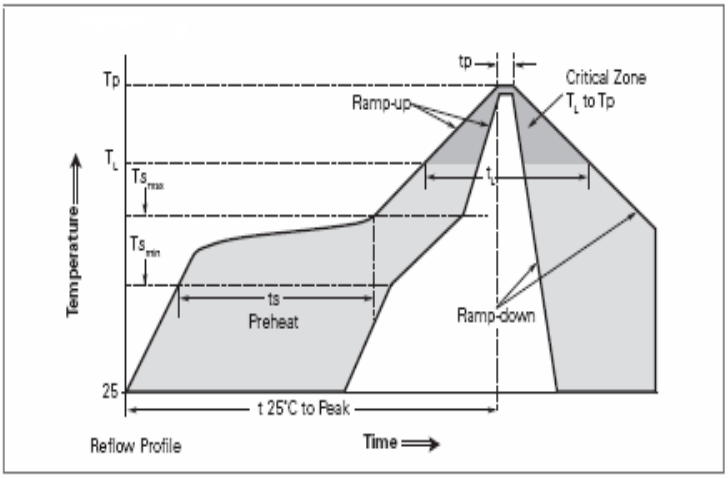
© 2016 Littelfuse, Inc.
Specifications are subject to change without notice.

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.
- LF 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.
- LF 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.

© 2016 Littelfuse, Inc.
Specifications are subject to change without notice.
Revised July 26, 2016

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse.