

## PolySwitch® PTC Devices

**Overcurrent Protection Device** 

#### PRODUCT: microSMD350LR-2

DOCUMENT: SCD27892 REV LETTER: D REV DATE: JULY 26, 2016 PAGE NO.: 1 OF 3

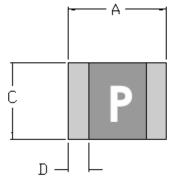
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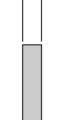
# **Specification Status: Released**

Maximum Electrical Rating Voltage: 6.0V<sub>DC</sub> Short Circuit Current: 50A

#### Notes:

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





#### Marking:

Ρ

TABLE I. DIMENSIONS:

	A		E	3	(	)	D	)
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
mm:	3.00	3.43	0.50	1.00	2.35	2.80	0.25	0.75
in:	(0.118)	(0.135)	(0.019)	(0.039)	(0.092)	(0.110)	(0.010)	(0.030)

#### TABLE II. PERFORMANCE RATINGS:

	CU	RRENT	RATIN	GS**		TIME TO TRIP**		TANCE UES	TRIPPED-STATE POWER DISSIPATION**
AMPE AT (			ERES 20°C		ERES 60°C	SECONDS AT 20°C, 9.5A		IMS 20°C	WATTS AT 20°C, 6.0V
HOLD	TRIP	HOLD	TRIP	HOLD	TRIP	MAX	MIN	MAX*	MAX
4.0	11.0	3.5	9.0	2.0	7.0	10.0	.0025	.011	1.0

\*Maximum resistance is measured 1 hour after reflow.

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

Agency Recognition:UL, CSAReference Document:PS300Precedence: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**



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



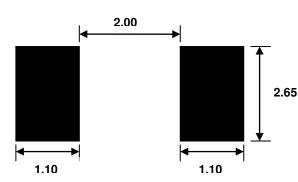
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Recommended pad layout (mm.)



Recommended reflow profile

Profile Feature	Pb-Free Assembly
Average ramp up rate (Ts <sub>max</sub> to Tp)	3°C/s max.
Preheat • Temperature min. (Ts <sub>min</sub> ) • Temperature max. (Ts <sub>max</sub> ) • Time (ts <sub>min</sub> to ts <sub>max</sub> )	150°C 200°C 60-120s
Time maintained above: • Temperature (T <sub>L</sub> ) • Time (t <sub>L</sub> )	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.
- Littelfuse 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.
- Littelfuse 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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DOCUMENT: SCD27892 REV LETTER: D REV DATE: JULY 26, 2016 PAGE NO.: 3 OF 3

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