

# PolySwitch® PTC Devices

## Overcurrent Protection Device

**PRODUCT: LVRL135S**

DOCUMENT: SCD25927  
PCN: E86982  
REV LETTER: G  
REV DATE: MAY 9, 2011  
PAGE NO.: 1 OF 2

### Specification Status: Released

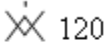
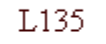

**Rated Operating Voltage at 20 °C (AC/DC):**  
120 V

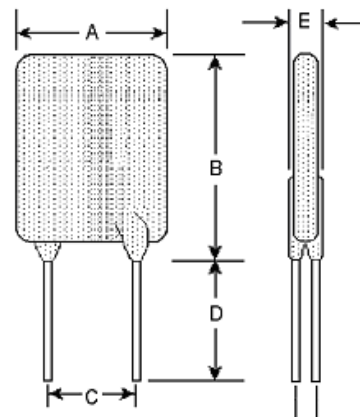
**Maximum Interrupt Voltage / Current at 20 °C (AC/DC):**  
135 V, 13.5 A

**Insulating Material:**  
Cured, Flame Retardant Epoxy Polymer

**Lead Material:**  
20 AWG Sn-Plated Copper (0.81mm/0.032" nominal diameter)

**Marking:**

 120 — Manufacturer's Mark and Voltage  
 L135 — Part Identification  
 — Lot Identification (can be on back)



**TABLE I. DIMENSIONS:**

	A		B		C		D		E	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
mm:	--	16.3	--	21.7	4.3	5.8	7.6	--	--	4.1
in*:	--	(0.64)	--	(0.85)	(0.17)	(0.23)	(0.30)	--	--	(0.16)

\*Rounded off approximation

**TABLE II. PERFORMANCE RATINGS @ 20 °C:**

HOLD CURRENT (A)	TRIP CURRENT (A)	RESISTANCE (Ω)		TIME TO TRIP(SEC) @ 6.75 A MAX	POST-TRIP RESISTANCE (Ω) MAX*	TRIPPED-STATE POWER DISSIPATION @ 120 V (W) TYP
		R MIN	R MAX			
1.35	2.70	0.109	0.167	20.0	0.30	2.8

\*Post Trip Resistance measured after one hour.

Agency Recognition: UL (File #E74889), CSA (File #CA 78165), TUV  
 Reference Documents: Raychem PS300, UL1434  
 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

Directive 2002/95/EC  
Compliant

Directive 2000/53/EC  
Compliant



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## **WARNING**

### **Warning: Application Limitations for the LVR Product Line**

1. Users should independently evaluate the suitability of and test each product selected for their own application.
2. This product should not be used in an application where the maximum interrupt voltage or maximum interrupt current can be exceeded in a fault condition. Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
3. A PTC device is not a fuse - it is a nonlinear thermistor that limits current. Because under a fault condition all PTC devices go into a high resistance state but not open circuit, hazardous voltage may be present at PTC locations.
4. The devices are intended for protection against occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
5. In most applications, power must be removed and the fault condition cleared in order to reset a PTC device. However, under certain unusual conditions, a PTC device may automatically reset (see Raychem Circuit Protection Databook). Accordingly, PTC devices should not be used in an application where an automatic reset could create a safety hazard, such as garbage disposals and blenders.
6. It is the responsibility of the user to determine the need for back up or fail safe protection to prevent damage that may occur in the event of abnormal function or failure of the PTC device.
7. Operation in circuits with a large inductance can generate a circuit voltage ( $L di/dt$ ) above the rated voltage of a PTC device.
8. Devices are not recommended for reflow soldering.
9. Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, or mechanical procedures for electronic components.
10. PTC devices are not recommended to be installed in applications where the device is constrained such that its PTC properties are inhibited, for example in rigid potting materials or in rigid housings, which lack adequate clearance to accommodate device expansion.
11. Contamination of the PTC material with certain silicone-based oils or some aggressive solvents can adversely impact the performance of the devices.