Product Overview

PolySwitch BD280 Bladed Contact Resettable Overcurrent Protection

The Littelfuse Reflowable Thermal Protection (RTP) device is a low resistance, robust surface mountable thermal protector. It has a set open temperature and can be installed using reliable, lead-free, Surface Mount Device (SMD) assembly and reflow processes.

PolySwitch BD280 Bladed Contact

KEY FEATURES

- 2.8mm terminals
- Latches on first trip
- PTC resistance switching action
- Constant wattage power dissipation when tripped
- Solid state construction
- Probe points
- Bright color coded housing
- Low thermal derating

APPLICATIONS

- Automotive and heavy trucks circuits
- Wiring harness protection
- 12V power outlets
- Intermittent duty circuits (with high inrush current)
- DC motor circuits
  power window, power seat, power door lock, fuel & trunk door release, others (needing to survive lock rotor conditions)

BENEFITS

- Easy to implement, reliable solid state resettable overcurrent protection
- Reduces fault energy delivered to the wiring and loads
- Long, safe performance life
- Resilient at minimum and maximum voltage
- Not subject to change in calibration due to rough handling or high shock and vibration
- Facilitates fault finding
- Less chance of mis-installation
- Color recognition inspection possible
- Offers resettable overcurrent protection even in vehicle underhood applications

FUNCTION

- Directly replaces mini-sized automotive fuses and circuit breakers
- No cycling into short or overload
- No contacts to erode or weld together
- Virtually constant power consumption across voltage range 4V to 16V
- Very high resistance to shock and vibration
- Easier diagnostics
- Easily recognizable current rating
- Passes more current at higher temperatures than bi-metal circuit breakers

ELECTRICAL CHARACTERISTICS

Nominal Operating Voltage:	14V
Maximum Operating Voltage:	16V
Current Ratings:	10A, 15A, 20A, 25A, 30A
Cycle Life:	1,000 cycles @ 100A fault current
Trip Endurance:	1,000 hours @ 14V
Load Dump:	Per ISO 7337-1

INTERRUPT CURRENT AND VOLTAGE DROP MEETS OR EXCEEDS SAE J553

Current Ratings (A)	I Interrupt* (A)	Max. Voltage Drop (mV) @ Current Rating
10	225	180
15	300	160
20	450	135
25	450	115
30	450	105

* Tested to 5 cycles

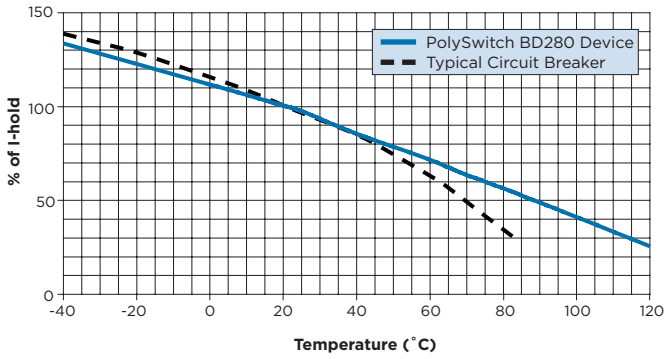
ENVIRONMENTAL SPECIFICATIONS

Operating Temperature:	-40°C to +125°C
Vibration:	Meets or exceeds SAE J553
Mechanical Shock:	Meets or exceeds SAE J553
Thermal Shock:	Meets or exceeds SAE J553
Humidity:	Meets or exceeds SAE J553
Cap Retention:	90N (20lbf)

ENVIRONMENTAL SPECIFICATIONS

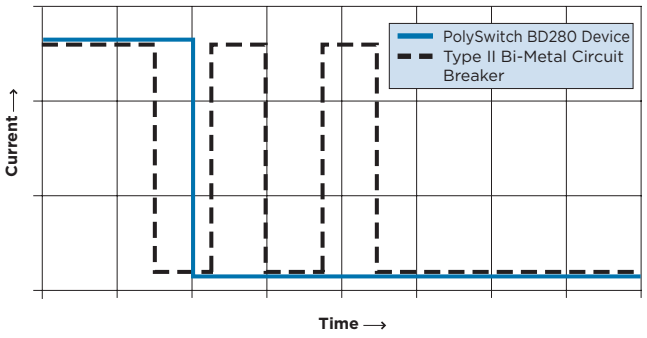
Box Material:	PBT meeting UL V-0 requirements
Terminal Material:	Brass with Tin over Nickel plating

THERMAL DERATING



PolySwitch bladed devices exhibit much less roll-off at high temperatures which allows for their use in underhood applications.

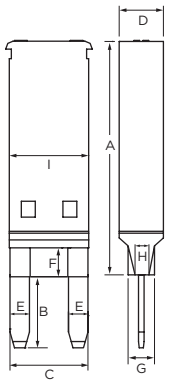
TRIP CHARACTERISTICS



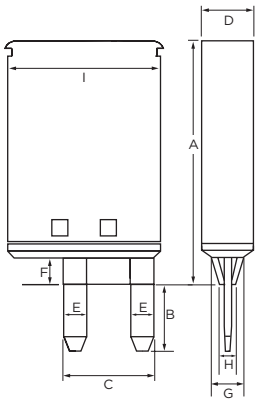
PolySwitch BD280 device latches after the first overcurrent trip, whereas Type II bi-metal circuit breakers typically cycle several times.

PART NUMBERS, STYLES AND DIMENSIONS

Part Numbers	Current Ratings	Body Style	mm Min/Max (inch approx.)								
			A	B	C	D	E(x2)	F	G	H	I
BD280-1130-10/16	10A	1	29.5/30.1 (1.173/1.185)	8.7/9.3 (03.43/0.366)	10.75/11.25 (0.423/0.443)	6.05/6.65 (0.238/0.262)	2.55/3.05 (0.1/0.12)	3.3/3.9 (0.13/0.154)	3.4/4 (0.134/0.157)	1.7/2.3 (0.067/0.091)	10.9/11.5 (0.429/0.453)
BD280-1130-15/16	15A	1	29.5/30.5 (1.173/1.185)	8.7/9.3 (03.43/0.366)	10.75/11.25 (0.423/0.443)	6.05/6.65 (0.238/0.262)	2.55/3.05 (0.1/0.12)	3.3/3.9 (0.13/0.154)	3.4/4 (0.134/0.157)	1.7/2.3 (0.067/0.091)	10.9/11.5 (0.429/0.453)
BD280-1130-20/16	20A	1	29.5/30.1 (1.173/1.185)	8.7/9.3 (03.43/0.366)	10.75/11.25 (0.423/0.443)	6.05/6.65 (0.238/0.262)	2.55/3.05 (0.1/0.12)	3.3/3.9 (0.13/0.154)	3.4/4 (0.134/0.157)	1.7/2.3 (0.067/0.091)	10.9/11.5 (0.429/0.453)
BD280-1927-25/16-W	25A	2	26.65/27.35 (1.049/1.077)	8.6/9.2 (0.339/0.362)	10.75/11.25 (0.423/0.443)	6.05/6.65 (0.238/0.262)	2.55/3.05 (0.1/0.12)	1.8/2.2 (0.071/0.087)	3.5/3.9 (0.138/0.154)	1.7/2.3 (0.067/0.091)	19/19.4 (0.748/0.764)
BD280-1927-30/16-W	30A	2	26.65/27.35 (1.049/1.077)	8.6/9.2 (0.339/0.362)	10.75/11.25 (0.423/0.443)	6.05/6.65 (0.238/0.262)	2.55/3.05 (0.1/0.12)	1.8/2.2 (0.071/0.087)	3.5/3.9 (0.138/0.154)	1.7/2.3 (0.067/0.091)	19/19.4 (0.748/0.764)



Body Style 1



Body Style 2

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