



PTM Online...On Demand
PRODUCT TRAINING MODULES

Key Performance Parameters

Part Number	Power	Temp. Range	Temp. Coeff.	Temp. Coeff. (max)	Temp. Coeff. (min)	Temp. Coeff. (typ)	Temp. Coeff. (max)	Temp. Coeff. (min)	Temp. Coeff. (typ)	Temp. Coeff. (max)	Temp. Coeff. (min)	Temp. Coeff. (typ)	Temp. Coeff. (max)	Temp. Coeff. (min)	Temp. Coeff. (typ)	Temp. Coeff. (max)
PLED6S	6W	-40 to 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PLED9S	9W	-40 to 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PLED13S	13W	-40 to 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PLED6Q12	6W	-40 to 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PLED9Q12	9W	-40 to 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
PLED13Q12	13W	-40 to 150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

- Minimum Breakdown Voltage
- Higher than max LED's voltage
- Maximum Breakdown Voltage

CLICK TO VIEW THIS PRODUCT'S PTM

Littelfuse Lighting Products

[PLED6S](#)

[PLED9S](#)

[PLED13S](#)

[PLED6Q12](#)

[PLED9Q12](#)

[PLED13Q12](#)

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Littelfuse Delivers High Reliability, Low Maintenance and Long Term Life of LED Lighting Products

The light-emitting-diode (LED) lighting market is growing quickly, thanks in part to benefits in energy efficiency, long term life & durability and low maintenance expectations.

A new problem that lighting system designers, product manufacturers and end users are recognizing is that LED strings and power sources are susceptible just like all electronics to damage by transient voltage, surges and other electrical threats.

Particularly with outdoor applications, a common cause of LED failure is electrostatic-discharge (ESD) induced by nearby lightning strikes. Used in traffic control and lighting, safety or other critical use applications, failure is not an option.

PLED (Open LED Protector Series)

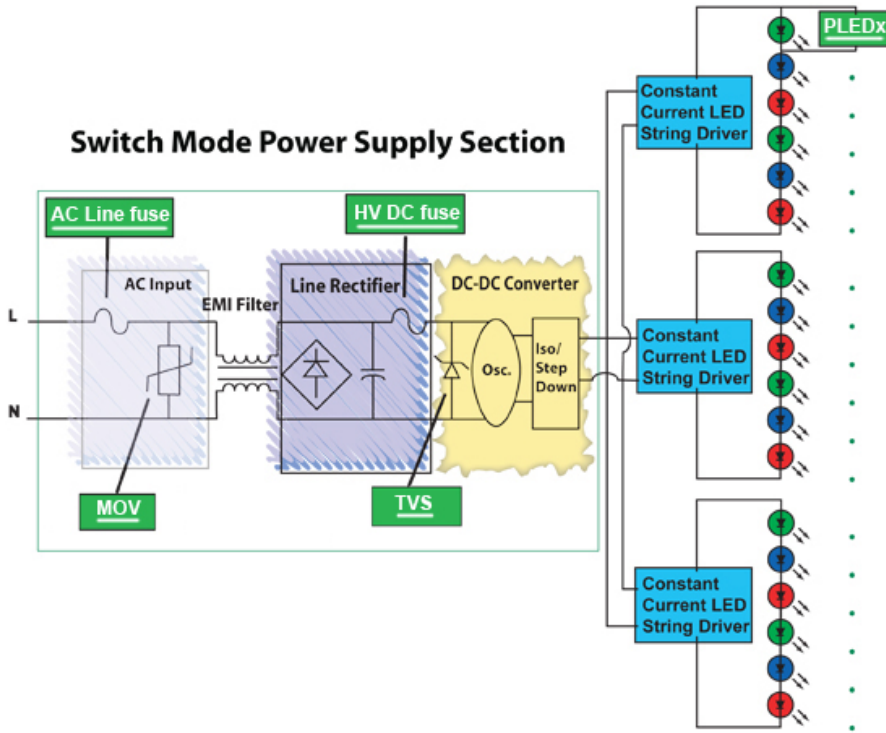
The new **Littelfuse PLED Series** provides added reliability to LED lighting designs by minimizing the impact due to the loss of a single LED in a series string of LEDs.

LED Protector-The open LED protector device (**PLEDx**) provides an electronic switching shunt path when a single or even multiple LEDs in the lighting array fails open. This insures the functionality of the remaining lighting array, thus providing for highly reliable lighting functions for applications such as roadside warning lights, streets lights, headlights, aircraft runways, etc. This PLED device is compatible with one, two, and three watt LEDs. It is available in two different surface mount packages, the standard DO-214AA and the Quad Flat Pak No-Lead (QFN). The QFN's low profile, chip scale package (CPS) is ideal for dense board applications.

Features of PLED (Open LED Protector)

- Operating Temperature: -40 to 150 Degrees C
- Switching speeds up to 10 kHz
- Automatically Resets
- Compatible with 1,2 and 3 Watt LEDs

Below is an **INTERACTIVE** circuit diagram, **CLICK** the 5 green Application Solution boxes to see the product options to help you deliver the full benefits to your LED lighting solutions.



PLED part numbers/parameters

Part Number	Marking	V _{BR} Breakdown		I _T @V _T	V _T @I _T =1Amp
		Volts		Amps	Volts
		Min	Max	Max	Max
<u>PLED6S</u>	PL6	6	16	1.0	3
<u>PLED9S</u>	PL9	9	18	1.0	3
<u>PLED13S</u>	PL13	13	26	1.0	3