



New Product Announcement

AL5890

High-Voltage Linear Constant Current LED Driver

The AL5890 is a 400V constant current LED driver, it provides a cost-effective two-pin solution.

It has good temperature stability and the current accuracy of $< \pm 2.0\text{mA}$ (typ.) regulated over a wide voltage and temperature range.

The AL5890 comes in various or pre-fixed output current options removing the need for external current setting resistors and creating a simple driver solution for the series of LEDs. The AL5890 supports both the high-side and low-side driving of LED chains.

The AL5890 turns on when the voltage between IN and OUT is greater than 7V. Long LED chain application up to 400V operating voltage subject to package thermal limitation.

The AL5890 has a thermal fold-back protection and this enhances the safety of the system at high temperatures.

It is available in thermally robust PowerDI[®]123 (Type B), SOT89-3L and TO252-3L packages.



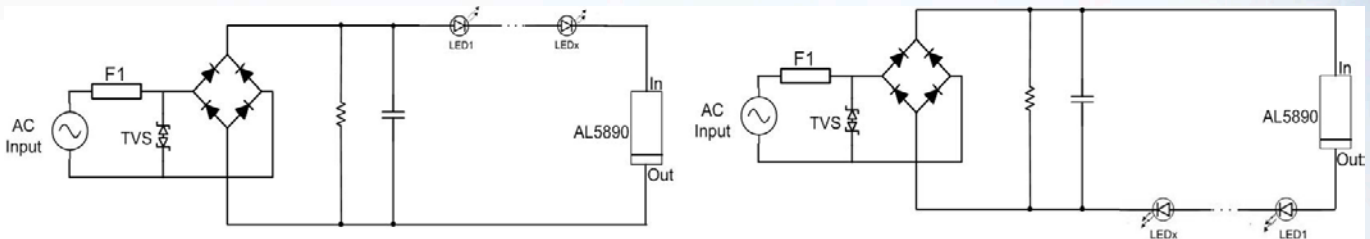
The Diodes' Advantage

- **Integrated power transistor with output current up to 40 mA**
Small form factor to minimize design space and save cost
- **400V Operating Voltage**
Supports both 120Vac and 230 Vac system
- **Available in PowerDI123, SOT89 and TO252 package**
Available in compact and thermal packages for size-constrained applications
- **LED Current Tolerance Over Wide Temperature Range $< \pm 2.0\text{mA}$ (typ.).**
Good LED current accuracy 5% @40mA
- **Thermal Fold-Back Protection**
Automatically reduces LED current to prevent system from overheating

Applications

- Commercial LED Lighting Fixtures
- Emergency Lighting
- Signage, Downlights, Decorative and Architectural Lighting

Typical Application Circuit



Product Portfolio

Part Number	Min. Input Voltage	Max. Input Voltage	Max. Out Current	Current Accuracy	Efficiency	Ambient Temperature Range	Package Outline
	V	V	mA	+/- %	%	°C	
AL5890	7	400	40	< 10	>80	-40~ +105	PDI123, SOT89, TO252

To find out more information: <https://www.diodes.com/products/power-management/led-drivers/linear-led-drivers/>
AL5890: <https://www.diodes.com/part/AL5890>

Ordering Information

Part Number	Package Code	Package	Tape and Reel	
			Quantity	Part Number Suffix
AL5890-10P1-13	P1	PowerDI123	10,000/ Tape & Reel	-13
AL5890-15P1-13	P1	PowerDI123	10,000/ Tape & Reel	-13
AL5890-20P1-13	P1	PowerDI123	10,000/ Tape & Reel	-13
AL5890-30P1-13	P1	PowerDI123	10,000/ Tape & Reel	-13
AL5890-40P1-13	P1	PowerDI123	10,000/ Tape & Reel	-13
AL5890-10Y-13	Y	SOT89-3L	2,500/ Tape & Reel	-13
AL5890-15Y-13	Y	SOT89-3L	2,500/ Tape & Reel	-13
AL5890-20Y-13	Y	SOT89-3L	2,500/ Tape & Reel	-13
AL5890-30Y-13	Y	SOT89-3L	2,500/ Tape & Reel	-13
AL5890-40Y-13	Y	SOT89-3L	2,500/ Tape & Reel	-13
AL5890-10D-13	D	TO252-3L	2,500/ Tape & Reel	-13
AL5890-15D-13	D	TO252-3L	2,500/ Tape & Reel	-13
AL5890-20D-13	D	TO252-3L	2,500/ Tape & Reel	-13
AL5890-30D-13	D	TO252-3L	2,500/ Tape & Reel	-13
AL5890-40D-13	D	TO252-3L	2,500/ Tape & Reel	-13