



New Product Announcement

AL5809

Simple Two Terminal $\pm 5\%$ Constant Current Linear Regulator

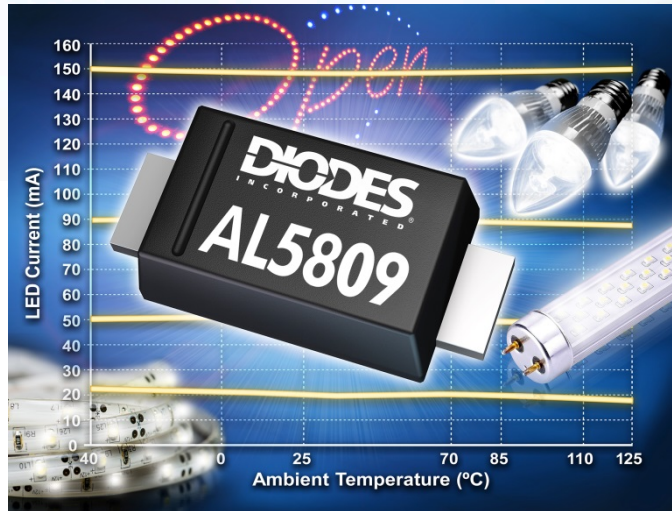
The AL5809 is specified to be used across a temperature range from -40°C to $+125^{\circ}\text{C}$ with an operating voltage (between the two terminals) from 2.5V to 60V.

It is offered in various fixed output current versions, which removes the need for external current setting resistors and inductors.

The POWERDI-123 package fixed output current options are: 15mA, 20mA, 30mA, 40mA, 50mA, 60mA, 90mA, 120mA and 150mA. The alternative SOD-123 package current output versions are: 15mA, 20mA, 30mA, 40mA and 50mA.

The AL5809 delivers LED currents with $\pm 5\%$ precision over a wide temperature range from its POWERDI-123 1.2W maximum power dissipation package with excellent $20\text{ppm}/^{\circ}\text{C}$ temperature stability and high power supply rejection ratio.

The device simplifies the LED lighting solutions for its target applications of LED signage, LED strip lighting and low-current retrofit lamps.



The Diodes Advantage

The AL5809 provides a simple two-terminal constant fixed current linear solution that is low BOM cost and easy to use with no external setting resistors and inductors.

- **Low Temperature Drift and High power Supply Rejection**
 $\pm 5\%$ LED current tolerance over temperature
- **Small Foot Print Robust Package**
Up to 1.2W for POWERDI-123 and standard SOD-123
- **Wide Operating Range**
2.5V to 60V Operating Voltage (between two terminals) and -40°C to $+125^{\circ}\text{C}$ Temperature Range
- **A wide Selection of Fixed Current Device**
15mA, 20mA, 30mA, 40mA, 50mA, 60mA, 90mA, 120mA and 150mA

Applications

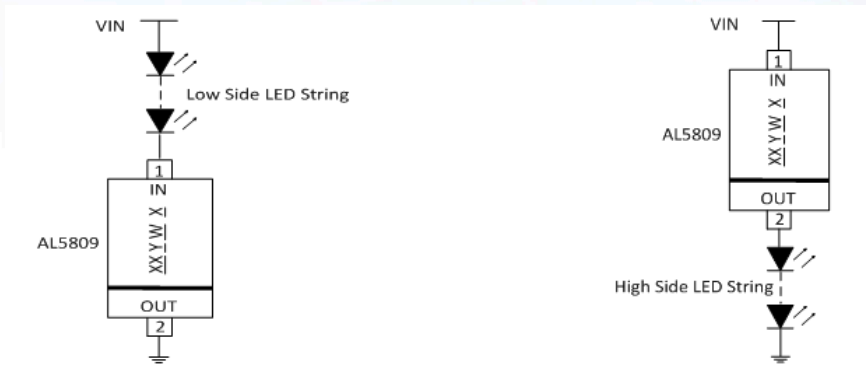
- LED Signage
- LED Strip Lighting
- Instrumentation illumination
- White goods
- Retrofit LED lamps



New Product Announcement

AL5809

Typical Application Schematic:



Product Portfolio

Part Number	Min. Input Voltage	Max. Input Voltage	LED Channel Number	Max. Out put voltage	Max. Out put Current	LED Current accuracy	Switching frequency	Dimming Method		Operate temperature °C	Package Outline
	V	V		V	mA	+/- %	kHz	Analog	PWM		
AL5809	2.5	60	1	60	15~150	5	-	-	Yes	-40 ~ +125	POWERDI-123 SOD-123
AL5812	3.5	60	1	60	150	3		Yes	Yes	-40 ~ +125	MSOP-8EP U-DFN3030-6
AL8400	2.2	18	1	18	External transistor	3		Yes	Yes	-40 ~ +125	SOT353

Ordering Information

Device	Packaging	Marking ID	Quantity
AL5809-15P1-7	PDI123	C1	3000
AL5809-20P1-7	PDI123	C2	3000
AL5809-30P1-7	PDI123	C3	3000
AL5809-40P1-7	PDI123	C4	3000
AL5809-50P1-7	PDI123	C5	3000
AL5809-60P1-7	PDI123	C6	3000
AL5809-90P1-7	PDI123	C7	3000
AL5809-120P1-7	PDI123	C8	3000
AL5809-150P1-7	PDI123	C9	3000
AL5809-15S1-7	SOD-123	D1	3000
AL5809-20S1-7	SOD-123	D2	3000
AL5809-30S1-7	SOD-123	D3	3000
AL5809-40S1-7	SOD-123	D4	3000
AL5809-50S1-7	SOD-123	D5	3000