



# New Product Announcement

## AL5810

### 60V, Adjustable Current, Linear LED Driver Provides a Cost-Effective Solution for Industrial and Consumer Lighting

The DIODES™ AL5810 is a three-terminal, adjustable current, linear LED driver offering temperature and voltage current stability. LED currents up to 200mA are set by a single high-value external resistor, which reduces overall bill of materials (BOM) cost. No external capacitor is needed.

The AL5810's output is its supply pin that can swing from 2.0V up to 60V, which enables it to drive long LED chains in both high-side or low-side LED strings configurations.

The LED current is set by  $R_{SET}$ , an external resistor, whose drop is outside of the LED current path, enabling it to maintain current accuracy across the whole output voltage range.

The AL5810 is available in two packages: the small footprint, high power density, wettable flank W-DFN2020-3/SWP (2mm x 2mm) and the lower thermal impedance TO252 (DPAK) package.



#### The DIODES™ Advantage

**Simple solution for high-power density adjustable LED current lamps.**

- **High-Value External Resistor for Adjustable LED Currents Up to 200mA**  
Simple low-cost adjustment of LED currents using one device
- **Good LED Current Tolerance:  $\pm 3\%$**   
Provides accurate LED current with good inter-lamp matching
- **2V to 60V Wide Input Voltage Range**  
Supports driving wide number of LEDs from standard 5V, 12V, 24V, and 48V input voltages
- **Fast PWM Dimming via External MOSFET on  $R_{SET}$  pin**  
Wide brightness dimming with minimal e-flicker
- **Supports Power Supply PWM Dimming**  
Simple brightness control in many industrial applications

#### Applications

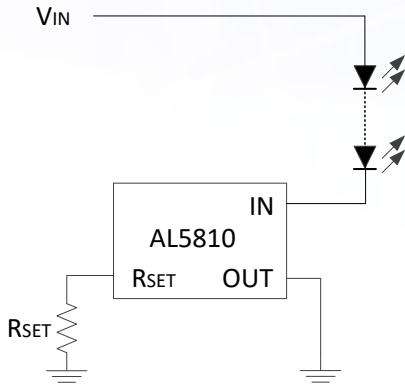
- Augmented and virtual vision devices
- Smart appliances
- Power tools
- Farm & agriculture lighting equipment

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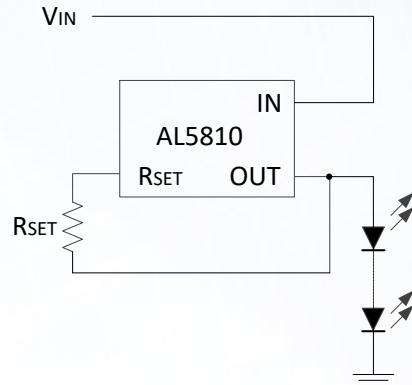
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### Typical Application



LED High-Side Configuration



LED Low-Side Configuration

### Simple Linear LED Drivers

Part Number	Min. Input Voltage (V)	Max. Input Voltage (V)	Output Channels	Max. Output Current (mA)	Reference Voltage Tolerance (±%)	Operating Temperature Range (°C)	Dimming Method		Package
							(VIN)	(PWM)	
<a href="#">AL5810</a>	2	60	1	200	3	-40 to +105	External	External	W-DFN2020-3/SWP (Type A) TO-252 (DPAK)
<a href="#">AL5809</a>	2.5	60	1	60 150	5	-40 to +85	External	External	SOD123 POWERDI-123

### Ordering Information

Orderable Part Number	Compliance (Only Automotive supports PPAP)	Package	Package Code	Moisture Sensitivity	Packing	
					Quantity	Carrier
<a href="#">AL5810FJ3-7</a>	Standard	W-DFN2020-3/SWP (Type A)	FJ3	MSL-1	3,000	7" Tape and Reel
<a href="#">AL5810D-13</a>	Standard	TO-252 (DPAK)	D	MSL-1	2,500	13" Tape and Reel