

Multiple Dimming Isolated PWM Controller for high-performance LED lighting

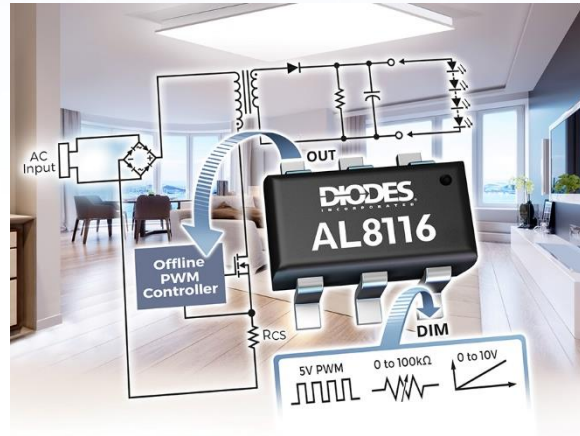
The AL8116 is a versatile dimming input controller for offline LED lamps. It works with three types of dimmer signal formats:

1. 0 to 10V dimming voltage
2. PWM (Pulse Width Modulation) signal
3. Simple potentiometer

It converts these to a PWM output signal which can easily be used to provide an isolated dimming control via an opto-coupler to the primary side LED driver.

The AL8116 has a wide supply voltage range from 10V to 56V. The AL8116 Output Duty Cycle accuracy is typically $\pm 2.5\%$ and its minimum Output Duty cycle can be set through a CLAMP pin resistor.

The AL8116 has an internal overtemperature protection (OTP) and it is available in the SOT26 package.



The Diodes Advantage

The AL8116 provides a high-performance solution for LED lamps with isolated dimming control.

- **Wide 10V~56V Supply Voltage Range**

Operates from auxiliary winding output voltage or standard power rails

- **Supports PWM, 0-10V, and Potentiometer Dimming Input Converted into 5V PWM Output Through Opto-Coupler**

Provides a simple cross-isolation barrier dimming solution

- **Accurate $\pm 2.5\%$ PWM Output Duty Cycle**

Provides an accurate dimming curve

- **Adjustable Minimum PWM Output Duty Cycle**

Set flexibility for the minimum brightness level

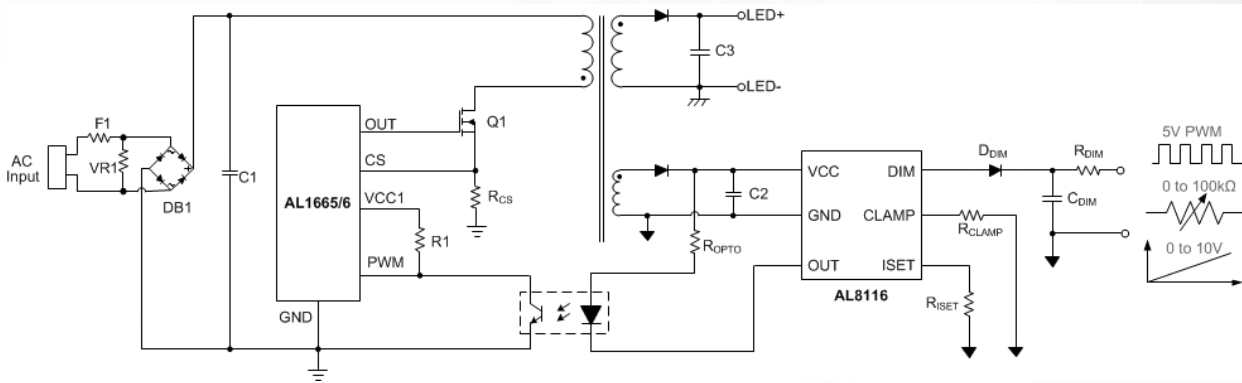
- **Built-in Overtemperature-Protection with Auto-Recovery**

Protects the system from overheating

Applications

- 0-10V Dimming Luminaires
- Isolated Power Supplies for dimmable LED Lighting
- Smart LED Lighting
- Dimming Control Devices
- Commercial LED Lighting
- Dimmable LED Lighting
- Adjustable Control for Isolated Power Supplies

Typical Application



Diodes Off-line LED Drivers

Part Number	Min. Input Voltage	Max Input Voltage	Dimming Accuracy	Supply Current	Minimum Output Duty Cycle	Dimming input			Operating Temp range °C	Package Outline
	V _{DC}	V _{DC}	%			Analog	Potentiometer	PWM		
AL8116W6-7	10	56	±2.5	0.6 mA	Adjustable down to <1%	0-10V	Y	Y	-40 ~ +105	SOT26

Ordering Information

Part Number	Package Code	Package	Tape and Reel	
			Quantity	Part Number Suffix
AL8116W6-7	W6	SOT26	3000/Tape & Reel	-7

To find out more information:

<https://www.diodes.com/part/AL8116>