



AL8853

Enhanced PWM-to-Analog Dimming, 40V Boost Controller Improves Dynamic Brightness Control

The AL8853 is a highly integrated and cost-effective boost LED driver-controller for applications where the required LED chain length exceeds the input power rail. It provides a high-performance LED general lighting solution.

The AL8853 uses current-mode control and fixed-frequency operation to drive an external power switch and regulate the LED output current. The LED current is sensed by a ground-referred sense resistor. In constant-current mode, an OVP input is used to detect open-LED conditions.

The direct sensing of LED current enables the AL8853 to also be used in as a constant-voltage boost controller, a resistor divider is added between V_{OUT} and Ground onto the FB pin.

PWM-to-analog dimming provides a wide and deep dimming range.

The AL8853 has comprehensive protection features and is available in the SO-8 package.



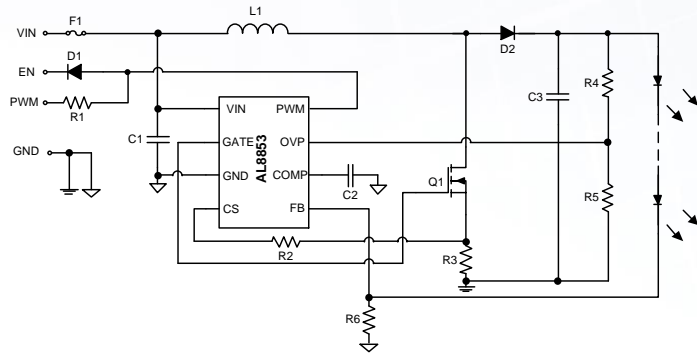
DIODES Advantage

- Wide Input Voltage Range**
 Its 6V to 40V input range supports 12V and 24V input rails
- Low 200mV Feedback Reference Voltage with High $\pm 3\%$ Precision**
 Minimizes required overheads and maintains tight brightness control
- Fast PWM Conversion to Wide Analog Dimming Range**
 Eliminates PWM dimming e-flicker supporting 1%~100% and dimming frequency up to 50KHz
- Fixed Switching Frequency Operation**
 Typical driver operation frequency is ~120KHz
- Full Protection Feature Set**
 UVLO, Output Overvoltage Protection (OVP), Power MOSFET Overcurrent Protection (OCP), Diode and Inductor Short Protection, LED Cathode Short-to-GND Protection, LED-Open Protection, V_{OUT} -Short Protection, Overtemperature Protection (OTP).

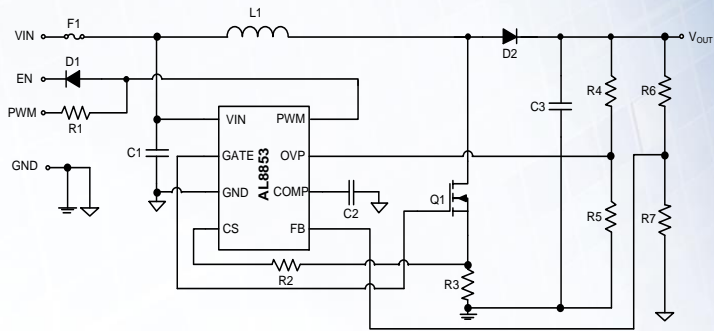
Applications

- Industrial Lighting
- Commercial LED Lighting
- Power Supply Modules

Typical Applications Circuit



Constant Output Current Application



Constant Output Voltage Application

Product Portfolio

Part Number	Topology	Input Voltage Range	Max Output Voltage	Output Current per CH	Accuracy	Feedback voltage	Switching Frequency	Dimming Control	Operating Temp Range	Package
		V	V	mA	±%	mV	kHz	PWM to Analog		
AL8863	Buck Controller	4.5 to 60	60	External MOS	5	100	1000	Y	-40 ~ +125	SO-8EP
AL8853	Boost Controller	6 to 40	External MOS	External MOS	3	200	120	Y	-40 ~ +125	SO-8

Ordering Information

Part Number	Package Code	Package	13" Tape and Reel	
			Quantity	Part Number Suffix
AL8853S-13	S	SO-8	4000/Tape & Reel	-13

For more information: <https://www.diodes.com/part/AL8853>