



New Product Announcement

AL8863

Buck LED Driver-Controller with Fault Detection and Thermal Foldback for Improved Reliability

The AL8863 is a step-down LED driver-controller designed to drive an external MOSFET, allowing it to drive high-current LEDs.

Using two external resistors, LED open/short faults can be simply detected. With an external NTC, LED current foldback can be easily implemented and programmed. Further brightness control is achieved by applying a PWM signal at the DIM input pin. Soft-start time can be adjusted using an external capacitor from the DIM pin to Ground.

Its hysteretic operation allows the AL8863 to operate from 50kHz to 1MHz and provides more flexibility on component selection including smaller external component size, hence minimizing the PCB size and eBOM cost.

Operating at an input supply voltage as high as 60V, the AL8863 drives longer LED strings without requiring external compensation and maintains uniform LED brightness.

The AL8863 is available in the thermally enhanced SO-8EP package.



DIODES Advantage

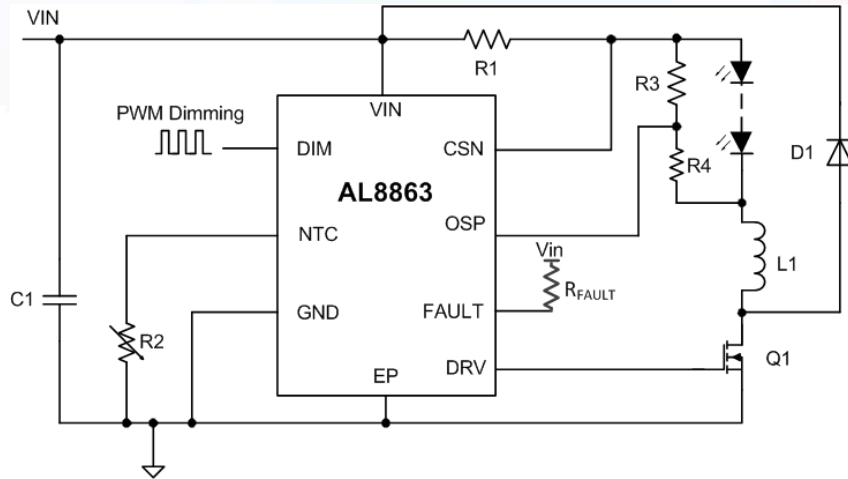
The AL8863 provides a simple reliable solution for driving multiple, extremely high brightness LEDs.

- **4.5V to 60V Input Voltage Range**
Works from standard 5V, 12V, 24V, and 48V supply rails input range with adjustable output current up to 5A
- **Simple Buck LED Driver-Controller Topology**
Extends LED chain power and thermal optimization
- **Wide Dynamic 1000:1 PWM Dimming Range @ 100HZ**
Allows deep dimming down to 1%
- **Adjustable Soft-Start Time with One External Capacitor**
Prevents overshoot of LED current
- **Dedicated NTC Pin for Programmable Thermal Foldback**
Improves reliability of LED lamps
- **Simple Fault-Detection Circuit with Open-Drain Fault Flag**
Detects LEDs string open/short and overtemperature state thereby improving overall system reliability

Applications

- Commercial & Industrial Lighting
- Architecture Lighting
- External LED Drivers
- Smart Connected Lighting

Typical Applications Circuit



Product Portfolio

Part	Topology	Min Input Voltage V	Max Input Voltage V	Max Output Voltage V	Max LED Current A	LED Current Accuracy %	Switching Freq (Max) kHz	Dimming		Efficiency %	Temp Range °C	Current Sense Voltage mV	Current Sense Hysteresis %	Package
								PWM	Analog					
AL8863	Buck Controller	4.5	60	60	Ext MOS	5	1000	Y	No	>95	-40 ~ +125	100	±13	SO-8EP
AL8862	Buck Driver	5	60	60	1	5	1000	Y	No	>95	-40 ~ +105	100	±13	SO-8EP

Ordering Information

Part Number	Package Code	Package	Tape and Reel		
			Tape Width	Quantity	Part Number Suffix
AL8863SP-13	SP	SO-8EP	8mm	2500/Tape & Reel	-13