

High Power 40V Buck LED Driver

The AL8843 is a hysteretic mode DC-DC step-down converter, designed for driving single or multiple series connected LEDs efficiently from a voltage source higher than the LED voltage.

The device can operate from an input supply between 4.5V and 40V and provide an externally adjustable output current up to 3A.

The AL8843 integrates the power switch and a high-side output current sensing circuit, which uses an external resistor to set the nominal average output current.

Dimming can be realized by applying an external control signal to the CTRL Pin. The CTRL Pin will accept either a DC voltage signal or a PWM signal.

AL8843 is available in the thermally enhanced a SO-8EP package.



The Diodes' Advantage

The AL8843 is a step down DC-DC converter that provides an externally adjustable output current up to 3A.

- **Integrated 40V/0.2Ω power MOSFET supports LED current up to 3A**
Requires fewer external components to achieve higher efficiency
Supports high power applications
- **Input voltage range from 4.5V to 40V**
Delivers a wide range of input voltages to support a broad spectrum of applications.
- **Dimming range from 0% to 100% for PWM dimming**
Broad dimming range capability
- **Built-in protections against LED Short/Open, thermal overload (OTP) protections ensure for a reliable system.**
Provides a reliable system performance

Application

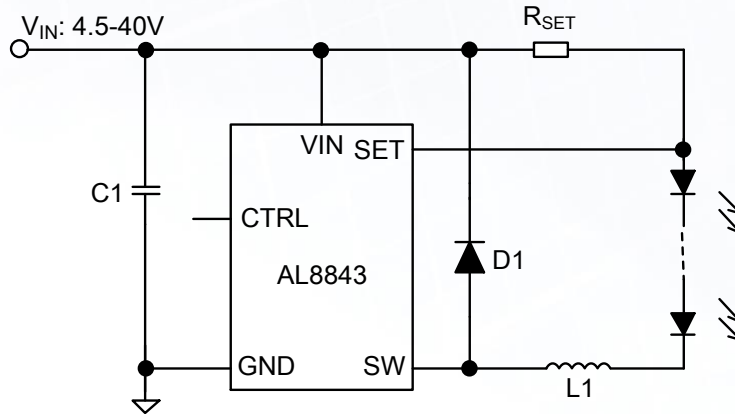
- Industrial Lighting
- Architectural Lighting
- External Driver with Multiple Channels



New Product Announcement

AL8843

Typical Application Circuit



Product Portfolio

| Part Number | Min. Input Voltage | Max. Input Voltage | Max. Output Current | Reference Voltage Accuracy | Switching Frequency | Efficiency | Ambient Temperature Range | Package |
|-------------|--------------------|--------------------|---------------------|----------------------------|---------------------|------------|---------------------------|-----------------------------|
| | V | V | A | +/- % | MHz | % | °C | |
| AL8843 | 4.5 | 40 | 3 | 4 | 1 | >95 | -40~ +105 | SO-8EP |
| AL8860/1 | 4.5 | 40 | 1.5 | 4 | 1 | >95 | -40~ +105 | TSOT25 SOT89 MSOP-8EP |
| AL8862 | 5 | 60 | 1 | 4 | 1 | >95 | -40~ +105 | SO-8EP |

To find out more information:

Product Page: <https://www.diodes.com/part/AL8843>

Datasheet: <https://www.diodes.com/assets/Datasheets/AL8843.pdf>

Ordering Information

| Part Number | Package Code | Package | Tape and Reel | |
|-------------|--------------|---------|-------------------|--------------------|
| | | | Quantity | Part Number Suffix |
| AL8843SP-13 | SP | SO-8EP | 2,500/Tape & Reel | -13 |