



Simple cost effective LED driver for high-current high-brightness LEDs

The AL8806 is Diodes' latest buck LED driver and drives LEDs with constant current up to 1.5A.

With its 30V maximum operating voltage it can drive up to 8 LEDs. With its minimum of 6V it comfortably operates at 12V_{AC/DC} rails.

The thermally enhanced MSOP-8EP (green molding) package enables the AL8806 to maintain its high drive capability over a wider ambient temperature range.

The AL8806 switches at frequency up to 1000kHz. This allows the use of small size external components. The small package size coupled with the need for only 4 external components produces a small solution footprint.

The accuracy, temperature range and cost make it ideally suited to cost sensitive lighting applications.



The Diodes advantage

The AL8806 provides a simple cost effective solution for general illumination LED lamps using high power LEDs

- **30V 1.5A LED drive capability**
Drives up to 8 LEDs in series and provides cost effective solution for MR16 and other 12V_{AC/DC} systems
- **Small footprint thermally enhanced MSOP-8EP package**
High power density small PCB footprint solution
- **5% initial average LED current accuracy**
Meets accuracy requirements of most lighting apps at cost effective price and improves inter-channel matching.
- **Simple digital PWM dimming with DC dimming on the CTRL pin**
Provides flexible scheme to users with different dimming methods: DC for thermal control, PWM for brightness control
- **High switching frequency up to 1MHz**
Small inductance value and size reducing overall solution size

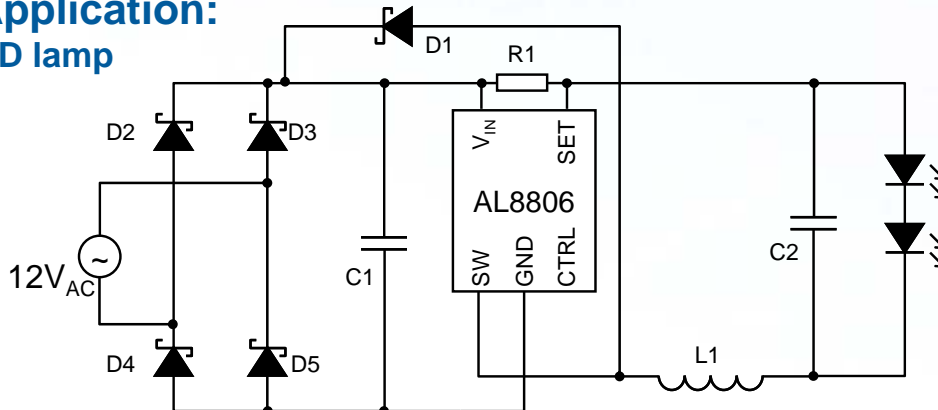
Applications

- General illumination
- Multi-substrate LED driving
- Driving of parallel LED chains
- MR 16 lighting
- 12VAC/DC lighting



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**Typical Application:
 MR16 LED lamp**



Diodes Medium Voltage High brightness LED Drivers

	AP8800A	ZXLD1350 ZXLD1352	AL8805	ZXLD1360	AL8806	AP8802H	ZXLD1362 ZXLD1366
Temp range	-40 ~ 85° C	-40 ~ 105° C	-40 ~ 125° C	-40 ~ 125° C	-40 ~ 125° C	-40 ~ 105° C	-40 ~ 125° C
V _{IN}	8 ~ 28V	7 ~ 30V	6 ~ 30V	7 ~ 30V	6 ~ 30V	8 ~ 60V	6 ~ 60V
LED Current	370mA	380mA	1A	1A	1.5A	1A	1A
Accuracy	5%	5%	5%	5%	5%	5%	5/2.5%
Frequency	600kHz	1MHz	1MHz	1MHz	1MHz	500kHz	1MHz
Efficiency	92%	95%	98%	95%	96%	92%	95%
Dimming	PWM/DC	PWM/DC	PWM/DC	PWM/DC	PWM/DC	PWM/DC	PWM/DC
Package θ _{JA} (°C/W)	TSOT23-5 (250)	TSOT23-5 (250)	SOT25 (250)	TSOT23-5 (82)	MSOP-8 (69)	SO-8EP (45)	TSOT23-5 (82) DFN3030-6 (44) SO-8EP (45)

To find out more information:

LED Driver Web page

<http://www.diodes.com/products/catalog/list.php?parent-id=91>

Datasheet

<http://www.diodes.com/datasheets/AL8806.pdf>

Ordering information

Device	Packaging	Part mark	Reel size	Tape width	Quantity
AL8806MP8-13	MSOP-8EP	Y W X E AL8806	13"	12mm	2500

All variants are in packages that are "Green" Molding Compound (No Br, Sb) with Lead Free Finish/RoHS Compliant (Note 1)

Notes:1. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Codes for date coding on part marks

Y Year 0~9 W A~Z week 1~26 a~z week 27~53 X: A~Z: Internal code