



New Product  
Announcement  
AL8807B

# Wide PWM dimming extends LED lamp dimming range

The AL8807B is an enhancement of Diodes' low EMI buck high brightness LED driver AL8807.

The AL8807B provides protection against a number of potential faults within a lamp:

1. Over-temperature condition → switches itself off
2. Open-LEDs → automatically stops switching
3. Short-LEDs → continues switching but at reduced duty cycle minimising power dissipation

The AL8807B can operate at up to 1MHz – reducing the size of external components. The small MSOP-8EP package size (same footprint as AL8806/7) coupled with the need for only 4 external components produces a small solution footprint.

The accuracy, temperature range, cost and PWM dimming range make it ideally suited to dimmable LED lighting applications.



## The Diodes Advantage

The AL8807B provides a simple wide PWM dimming range solution for Low Voltage general illumination LED lamps

- **Simple PWM dimming**  
Provides a simple solution for varying LED lamps' brightness with higher accuracy and range than analog dimming
- **Reduced switching noise and ringing**  
Reduces EMI issues – especially in non-optimised layout PCBs
- **Open-LED, short-LED and Over-Temperature Protection**  
Open-LED → automatically stops switching,  
Short-LED →  $f_{sw}$  & duty cycle reduces,  
 $T_j > 155^\circ\text{C}$  → Thermal trip
- **Small footprint, low thermal impedance packages – MSOP-8EP**  
High power density small PCB footprint solution
- **5% initial average LED current accuracy**  
Meets accuracy requirements of most lighting applications at cost effective price and improves inter-channel matching

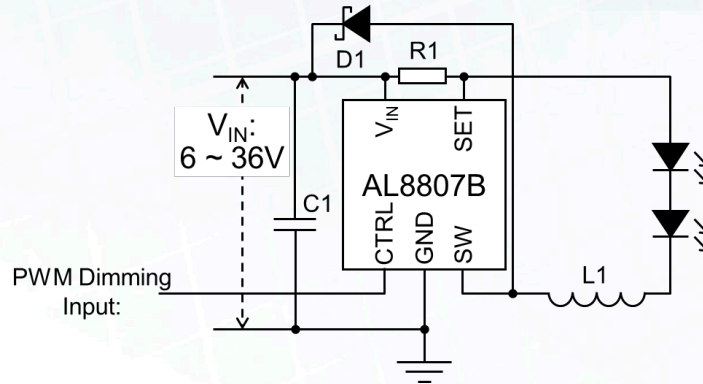
## Applications

- General illumination
- Multi-substrate LED driving
- Driving of parallel LED chains
- Wide Analog Dimming LED lamps
- $12V_{AC/DC}$  and  $24V_{AC/DC}$  lighting
- SELV lighting



## Typical Application:

### LED lamp



## Diodes Medium Voltage High Brightness LED Drivers

Part number	Comment	V <sub>IN</sub> V	LED Current A	Accuracy %	Switching Frequency MHz	Efficiency %	Dimming		Temp range °C	Protection			Soft- start	Package JA
							PWM	Analog		OTP	OC	SC		
AP8800A	Low Cost 1W LED Dr	8 ~ 28	0.37	5	0.7	92	Y	Y	-40~85	-	Y	Y	Y	TSOT23-5 (250)
ZXLD1360Q	AEC-Q100 1W Dr	7 ~ 30	1	5	1	95	Y	Y	-40~125	-	Y	Y	Y	TSOT23-5 (82)
AL8805	Low Cost 3W LED Dr	6 ~ 36	1	5	1	98	Y	Y	-40~125	-	Y	Y	Ext cap	SOT25 (250)
AL8806	Multi-Die 3+W LED Dr	6 ~ 36	1.5	5	1	96	Y	Y	-40~125	-	Y	Y	Ext cap	MSOP-8EP (69)
AL8807	Low-EMI 3W LED Dr	6 ~ 36	1 1.3	5	1	98	Y	Y	-40~125	-	Y	Y	Ext cap	SOT25 (250) MSOP-8EP (69)
AL8807A	Wide Analog dimming	6 ~ 36	1.3 1	5	0.7	98	-	Y	-40~125	Y	Y	Y	Ext cap	MSOP-8EP (69) SOT25 (250)
AL8807B	Wide PWM Dimming	6 ~ 36	1.3	5	1	98	Y	-	-40~125	Y	Y	Y	N	MSOP-8EP (69)
AL8808	Low Cost 3W LED Dr	6 ~ 30	1	5	1	98	Y	Y	-40~125	Y	Y	Y	Ext cap	SOT25 (250)
AP8802H	60V 3W LED Dr	8 ~ 60	1	5	0.7	95	Y	Y	-40~105	-	Y	Y	Y	SO-8EP (45)
ZXLD1362Q	60V 3W LED Dr	6 ~ 60	1	5	1	95	Y	Y	-40~125	-	Y	Y	Y	TSOT23-5 (82)
ZXLD1366Q	60V 3+W LED Dr - Tighter accuracy	6 ~ 60	1	2.5	1	95	Y	Y	-40~125	-	Y	Y	Y	TSOT23-5 (82) SO-8EP (45)
ZXLD1371Q	Multi-topology LED driver	5~60	N/A	2	1	97	Y	Y	-40~125	Y	Y	Y	Y	TSSOP-16EP

To find out more information:  
Medium voltage LED Driver Web page  
Datasheet

[http://diodes.com/catalog/medium\\_voltage\\_dc\\_dc\\_led\\_drivers\\_91/](http://diodes.com/catalog/medium_voltage_dc_dc_led_drivers_91/)  
<http://www.diodes.com/datasheets/AL8807B.pdf>

## Ordering information

Device	Packaging	Part mark	Reel size	Tape width	Quantity
AL8807BMP-13	MSOP-8EP	Y W X E AL8807B	13"	12mm	2500