



# New Product Announcement

AL1781/2

## Dimmable Single/Dual Linear LED Driver

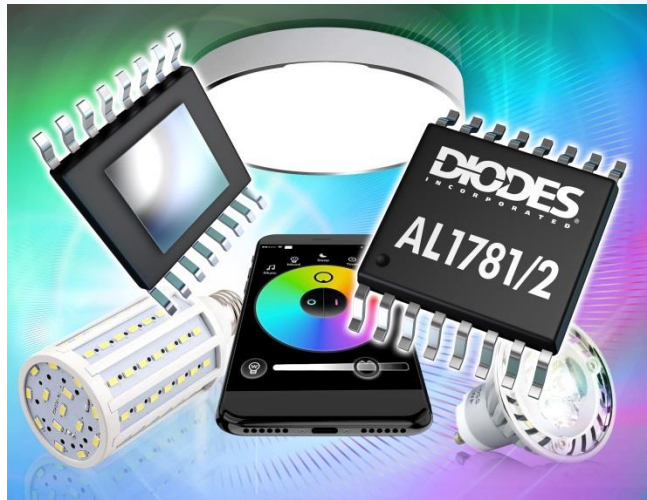
The AL1781/1782, a single/dual-channel dimmable Linear LED driver with PWM dimming control, is targeted for 1-Channel dimmable and 2-Channel tunable Smart Connected Lighting (SCL) applications. It serves as the LED driving element along with AC-DC power conversion block and intelligent wireless MCU as an emerging connected lighting applications.

The AL1781/1782 key merits attribute to dimming performance, low standby power, ease of system implementation and great scalability. It supports high frequency E-flicker-free PWM dimming with deep dimming capability with good linearity.

When no PWM signal is detected by the AL1781/1782, it will automatically enter the low-power mode for power saving purpose to be in compliance with ENERGY STAR® standby power requirement for connected lighting requirements.

The AL1781/1782 integrates Adaptive Thermal Management (ATM) scheme to minimize non-productive power dissipation and it can support high LED current (up to total 1500mA) applications.

*ENERGY STAR is a registered trademark owned by the U.S. Environmental Protection Agency.*



### The Diodes Advantage

- **High-performance PWM dimming driver without E-flicker for smart connected lamps' requirements**  
E-flicker-free high-frequency PWM dimming with deep dimming capability: support 40kHz down to 4%, 10kHz down to 1.0%, 4kHz down to 0.4%, or 1kHz down to 0.1% with good dimming linearity
- **High efficiency and better thermal performance**  
Integrate Adaptive Thermal Management (ATM) scheme to minimize non-productive power dissipation
- **Automatically enter or exit low standby power mode**  
The low standby power mode enables users to design the connected LED lamp to meet ENERGY STAR requirements

### Applications

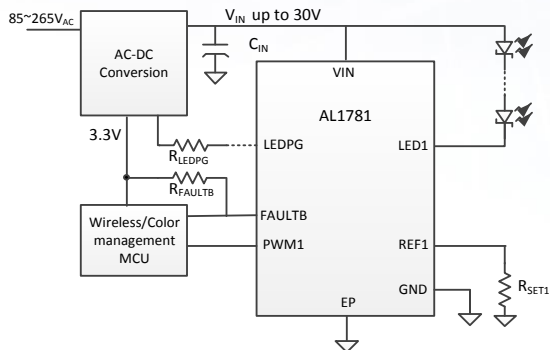
- **Smart Connected Lamps:**  
White Dimmable  
Color Temperature Controlled  
Full Color Lamps



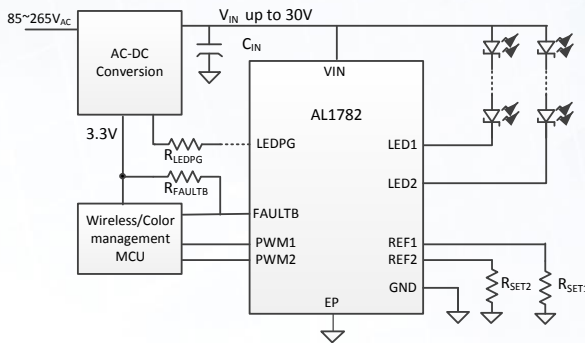
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### 1-Channel Dimmable White



### 2-Channel Tunable White



## Product Portfolio

Part Number	Min. Input Voltage	Max. Input Voltage	Output Voltage	Current Sink Channel	Accuracy	LED Dimming Control		Min LED Current	Max LED Current	Operating Temp Range	Package Outline
	V	V	V		+/- %	Analog	PWM	mA	mA	°C	
AL1781	6.5	30	Ext-MOSFET	1	4.0	N	Y	300	1500	-40 ~ 105	TSSOP-16EP
AL1782	6.5	30	Ext-MOSFET	2	4.0	N	Y	150	750	-40 ~ 105	TSSOP-16EP

## Ordering Information

Part Number	Package Code	Packaging	13" Tape and Reel	
			Quantity	Part Number Suffix
AL1781T16E-13	T16E	TSSOP-16EP	2,500/Tape & Reel	-13
AL1782T16E-13	T16E	TSSOP-16EP	2,500/Tape & Reel	-13

For more information:

AL1781: [www.diodes.com/part/AL1781](http://www.diodes.com/part/AL1781)

AL1782: [www.diodes.com/part/AL1782](http://www.diodes.com/part/AL1782)