



## New Product Announcement

---

### AL1696

# Highly Integrated Offline Dimmable LED Driver

The AL1696 is a highly integrated, high power factor constant current converter for mains dimmable LED driver applications, operating in boundary conduction mode (BCM) to ease in EMI/EMC.

The AL1696 with build-in MOSFET solution, reduces the bill of material (BOM) cost by eliminating the need for auxiliary winding and external high-voltage MOSFET.

The AL1696 is compatible with a wide range of dimmers including leading edge and trailing edge dimmers.

The AL1696 is available in the SO-7 package.



## The Diodes Advantage

**The AL1696 offers competitive BOM cost together with good dimmer compatibility for mains dimmable LED driver solution.**

- **Multiple options for internal MOSFET integration**  
Can cover up to 12W power for both low and high mains input
- **High integration level and single winding inductor needed**  
Provides compact size, cost competitive solution
- **Abundant protections integration**  
Internal UVLO/OCP/OTP increases system's reliability
- **Tight Current Sense Tolerance:  $\pm 3\%$**   
Maintains output current accuracy during mass production

## Applications

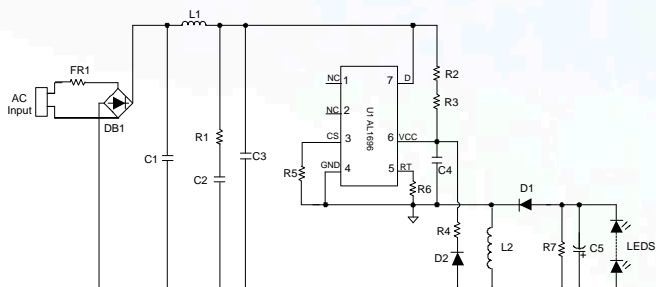
- Mains Dimmable LED Lamps
- Offline LED Power Supply Driver



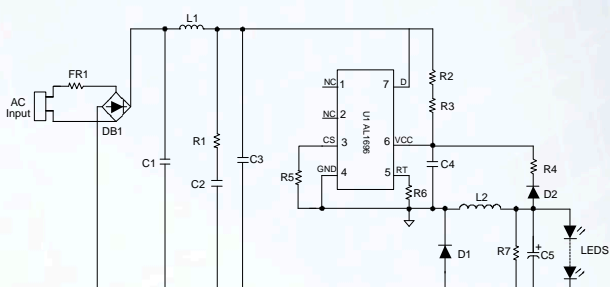
# New Product Announcement

## AL1696

### Typical Application Schematic



**Buck-Boost**



**Buck**

### Diodes Dimmable LED Drivers

Part Number	Min. Input Voltage	Max. Input Voltage	Max Gate Output current	Max Output LED Current	Reference Voltage accuracy	Switching Frequency	Efficiency	Dimming	Supply Current	Ambient Temperature Range	Package Outlines
	V	V	mA	mA	+/- %	kHz	%		mA	°C	
AL1696	8.5	18	-	230	3	200	87	Triac	0.15	-40~ +105	SO-7
AP1694A	6.5	29	100	ext. MOS	5	-	85	Triac	0.9	-40~ +105	SO-8
AP1695-20C	6.5	30	-	230	2.5	200	85	Triac	0.9	-40~ +105	SO-7

To find out more information:

Family page <http://www.diodes.com/search?type=0&value=AL1696>

Datasheet: [http://www.diodes.com/\\_files/datasheets/AL1696.pdf](http://www.diodes.com/_files/datasheets/AL1696.pdf)

### Ordering Information

Part Number	Package Code	Package	13" Tape and Reel	
			Quantity	Part Number Suffix
AL1696-30AS7-13	S7	SO-7	4,000/Tape & Reel	-13
AL1696-20BS7-13	S7	SO-7	4,000/Tape & Reel	-13
AL1696-20CS7-13	S7	SO-7	4,000/Tape & Reel	-13