



New Product Announcement

AP1694A

Simple Cost Effective Solutions for High Efficiency Triac Dimmable Retrofit Lamps

The AP1694A is a high performance AC-DC power factor corrected mains dimmable LED driver. It is compatible with both leading-edge and trailing-edge triac dimmers.

It uses Pulse Frequency Modulation (PFM) technology to regulate the LED current while achieving high power factor and low THD.

The AP1694A operates as a BCM controller which improves efficiency and EMI. It meets the requirement of IEC6100-3-2 harmonic standard.

The AP1694A is a single stage converter delivering accurate constant current (CC) regulation while removing the need for an opto-coupler and secondary control circuitry. It also eliminates the need of loop compensation circuitry while maintaining stability reducing the overall BOM cost.



The Diodes Advantage

The AP1694A provides a simple cost effective solution for general illumination LED lamps.

- **Unique Constant On Time (COT) Control**
Wide dimmer compatibility range with deep dimming down to 1%
- **Single stage high power factor triac dimming solution with few external components**
Low BOM solution cost
- **Versatile design supporting multiple topologies**
Flyback for isolated lamps and both Buck-boost & Buck for Non-isolated lamps
- **Boundary Conduction Mode (BCM) Operation**
Delivers high efficiency solutions with small EMI components
- **12V MOSFET Gate driver Output**
Supports higher power LED lamps

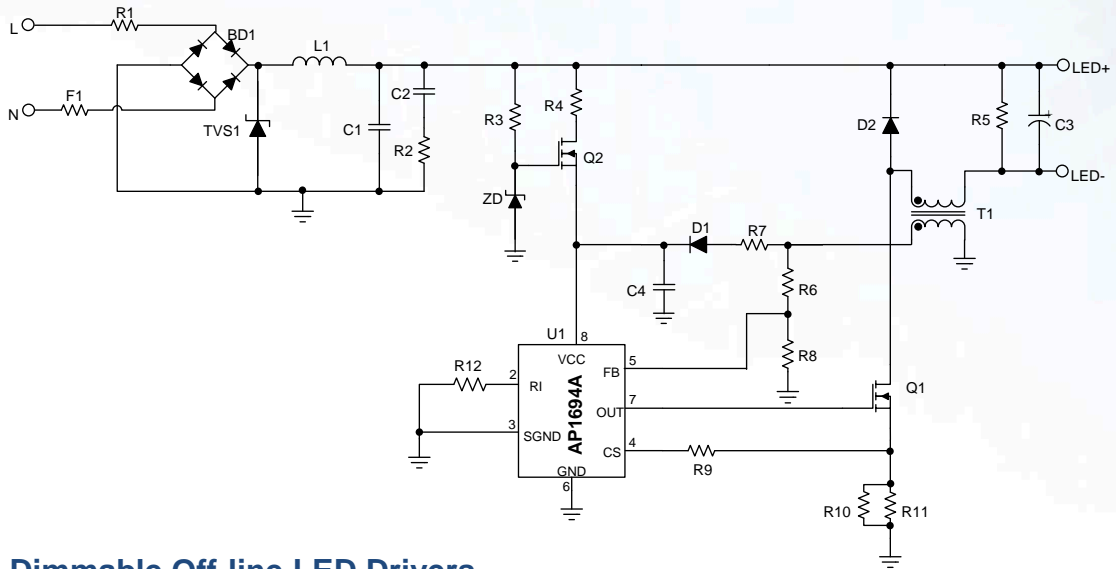
Applications

Mains Dimmable LED Lamps:

- GU10
- PAR lamps
- A lamps

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Typical Application: LED Retrofit Lamp (Buck)



Diodes Dimmable Off-line LED Drivers

Part Number	Max. Output Voltage V	Max. LED Current A	LED Lamp Power W	Switch type	Current accuracy %	Efficiency %	Operating temp range C	High Power Factor >0.9	Triac Dimmable Y	Topology			Package	Description
										Buck	Buck-Boost	Flyback		
AP1690	Ext MOS	Ext MOS	<50	Ext MOS	±2.5	83	-40 ~ 105	>0.9	Y	N	Y	Y	SO-8	Excellent Dimming Performance; PAR, High Bay, DownLights
AP1694	Ext. BJT	Ext. BJT 150mA	<10	Ext. BJT	±2.5	85	-40 ~ 105	>0.9	Y	Y	Y	Y	SO-8	Low BOM cost, BJT drive; GU10, B-class, P-class lamps
AP1694A	Ext MOS	Ext MOS	<30	Ext MOS	±2.5	85	-40 ~ 105	>0.9	Y	Y	Y	Y	SO-8	Good dimming performance; A-class Lamps, Tx lamps,
AP1695	Int. MOS limited	230mA	<10	Int. MOS	±2.5	85	-40 ~ 105	>0.9	Y	Y	Y	Y	SO-8	Reduced BOM for <10W Lamps; GU10, B-class, P-class lamps

To find out more information:

LED Driver Web page <http://www.diodes.com/products/catalog/list.php?parent-id=183>

Datasheet <http://www.diodes.com/datasheets/AP1694A.pdf>

Ordering Information

Device	Packaging	Marking ID	Reel Size	Tape width	Quantity
AP1694AMTR-G1	SO-8	1694AM-G1	13"	12mm	4000

G1" suffix in the part number, are RoHS compliant and green