



New Product  
Announcement

AL1677

## AL1677 Universal High-Efficiency High-Accuracy LED Driver Converter

The AL1677 is a universal AC input (85~277 V<sub>AC</sub>), high-efficiency and high-accuracy buck LED driver converter.

The topology provides accurate constant current (CC) line and load regulation, operating at boundary conduction mode (BCM) to assist EMI/EMC qualification and testing to meet the latest regulatory laws.

AL1677 system replaces the auxiliary winding and external high-voltage MOSFET with a few external components to create a low bill of materials (BOM) cost solution.

It has comprehensive protection features to improve the system safety and reliability. The thermal fold-back function reduces the output current when the driver's temperature is higher than the setting value.

The AL1677 is available in SO-8 package.



### The Diodes' Advantage

**The AL1677 provides an extremely cost-effective solution for general illumination LED lamps**

- **Single Inductance**  
Extremely low BOM cost solution
- **Built-in UVLO, OTP, LED short, LED open Protection**  
Provides a complete protection solution
- **Good Line Regulation and Load Regulation**  
One solution can meet full load and universal input voltage application
- **Boundary Conduction Mode (BCM) Operation**  
Achieves higher convert efficiency and reduced EMI issues with fewer components
- **Built-in Thermal Fold-back Function**  
Improves the system's reliability at the high ambient temperature

### Applications

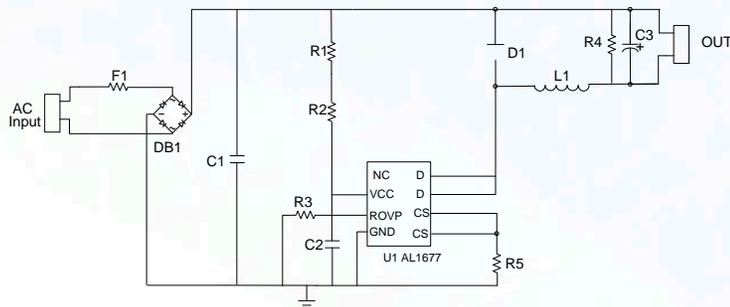
- Retrofit LED lamps
- High-voltage DC-DC LED driver
- General purpose constant current source



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### Typical Application: GU10/Bulb LED



### Diodes Off-line LED Drivers

Part Number	Max. Output Voltage	Max. LED Current	Current Accuracy	Efficiency	Operating Temp Range	High Power Factor	Triac Dimmable	Topology	Package Outline	Comments
	V	mA	%	%	°C					
AP1684A	80	400	+/-2	90	-40 ~ 105	Y	N	Buck	SO-8	External MOS For >10W lamps
AP1685	80	200	+/-2	90	-40 ~ 105	Y	N	Buck	SO-7	Internal MOS for <10W Lamps
AL1678-08B/-10B/-20B	80	120 /180 /240	+/-3	90	-40 ~ 105	N	N	Buck	SO-7	Integrates 0.8A/500V MOS for <8W 1A/500V MOS for <10W 2A/500V MOS for <15W
AL1677-05B	80	100	+/-3	90	-40 ~ 105	N	N	Buck	SO-8	Integrates 0.5A/500V MOS for <5W
AL1677-08B	80	120	+/-3	90	-40 ~ 105	N	N	Buck	SO-8	Integrates 0.8 A/500V MOS for <8W
AL1677-10B	80	180	+/-3	90	-40 ~ 105	N	N	Buck	SO-8	Integrates 1A/500V MOS for <10W
AL1677-20B	80	240	+/-3	90	-40 ~ 105	N	N	Buck	SO-8	Integrates 2A/500V MOS for <15W

### Ordering Information

Part Number	Package Code	Package	13" Tape and Reel	
			Quantity	Part Number Suffix
AL1677-05BS-13	S	SO-8	4,000/Tape & Reel	-13
AL1677-08BS-13	S	SO-8	4,000/Tape & Reel	-13
AL1677-10BS-13	S	SO-8	4,000/Tape & Reel	-13
AL1677-20BS-13	S	SO-8	4,000/Tape & Reel	-13