

## IRS2983 LED Flyback Control IC

### Features:

- Flyback/Buck-Boost LED Driver
- Critical-conduction (transition, boundary mode operation)
- Maximum Frequency Limit, Discontinuous mode operation at light load
- Primary constant power control (primary side regulator)
- High Voltage Startup for rapid start at any AC input voltage
- Cycle by cycle over-current protection
- Hiccup mode over voltage protection
- Open and short circuit protection
- Micropower startup
- Latch immunity and ESD protection

### Benefits:

- High power factor
- Low THD
- Wide input range
- Supports triac dimming
- Compatible with secondary feedback operation

### Applications:

- Flyback or Buck-Boost LED bulbs, tubes, lamps with output power in range of 1 to 100W
- Dimmable LED drivers
- Stand-alone LED power supplies

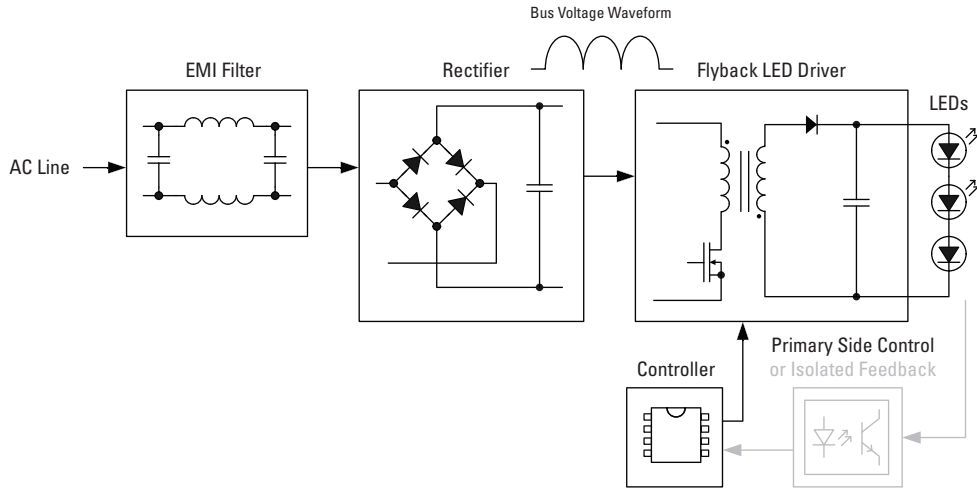


The IRS2983 is a versatile LED controller for Flyback or Buck-Boost LED drivers in the 1 to 100W range. It may be used in LED bulbs, tubes and other fixed load applications in a simple primary side regulated configuration that requires no external opto-isolator or feedback circuit. Off-the-shelf LED power supplies (sometimes called modules or bricks) capable of supplying constant current over a range of output voltage can also be designed very effectively around the IRS2983. Such LED power supplies generally require isolation, constant output current, wide input voltage range, high power factor and low THD, short and open circuit protection and EMI compliance. The IRS2983 based design can provide the required functionality. The IRS2983 LED driver IC makes an excellent control core on which to base such a design due to its functionality and ease of interface with opto-isolators and other circuitry.

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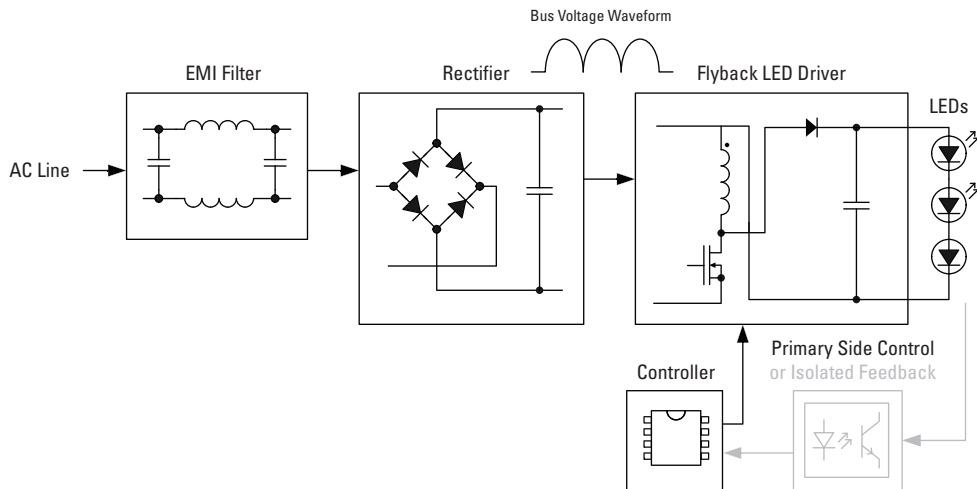
## PFC Single Stage Flyback Topology

Description	Power Range	Input Range	Isolation	Power Factor	LED Load
Intended for primary side regulation. However, an opto-coupler can be used for feedback if needed.	1 to 100 W	90 to 305 V <sub>AC</sub>	Yes	>0.9	Any



## PFC Single Stage Buck-Boost Topology

Description	Power Range	Input Range	Isolation	Power Factor	LED Load
Intended for primary side regulation. However, an opto-coupler can be used for feedback if needed.	1 to 100 W	90 to 305 V <sub>AC</sub>	No	>0.9	Higher voltage, lower current



## Specification:

Part Number	I <sub>o+</sub> /I <sub>o-</sub> (typ)	I <sub>o+</sub> (typ)	t <sub>on</sub> & t <sub>off</sub> (typ)	V <sub>ccuv+</sub> (typ)	V <sub>ccuv-</sub> (typ)	I <sub>occurv</sub> (typ)	I <sub>cc</sub> (typ)	Packages
IRS2983	200/400 mA	200 mA	60/30 ns	12.5 V	10.5 V	150μA	2.5 mA	S08