

## DESCRIPTION

The PT6919 is a primary side regulation single stage Flyback and PFC controller for offline LED lighting. It achieves high power factor and accurate constant LED current with single-power-stage for isolated lighting applications.

The PT6919 provides accurate LED current control from primary-side information. Eliminating the secondary-side feedback components and the opto-coupler significantly simplifies the LED lighting system design.

The PT6919 integrates PFC function and the high PF value is achieved with constant on-time operation. The PT6919 works in Quasi-Resonant switching mode to reduce the switching losses and improve the EMI performance.

The multi-protection features of PT6919 greatly enhance the system reliability and safety. The PT6919 provides input over voltage protection, short LED protection, open LED protection, over temperature protection, cycle-by-cycle current limiting, etc.

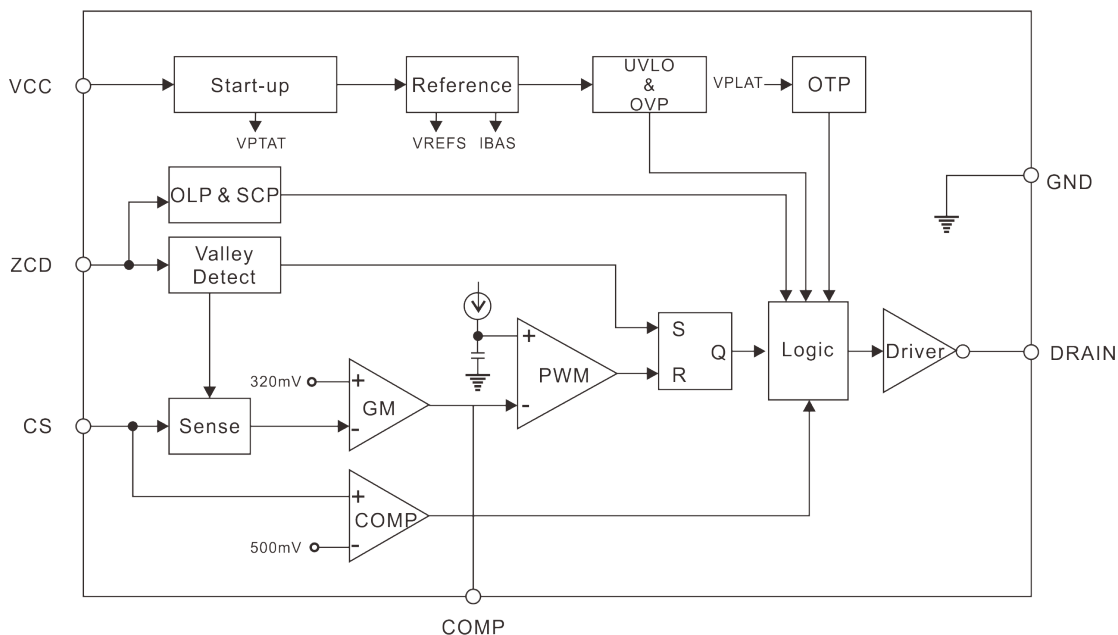
## APPLICATIONS

- LED bulb lamp.
- LED tube lamp.
- LED PAR lamp.
- Other LED lighting.

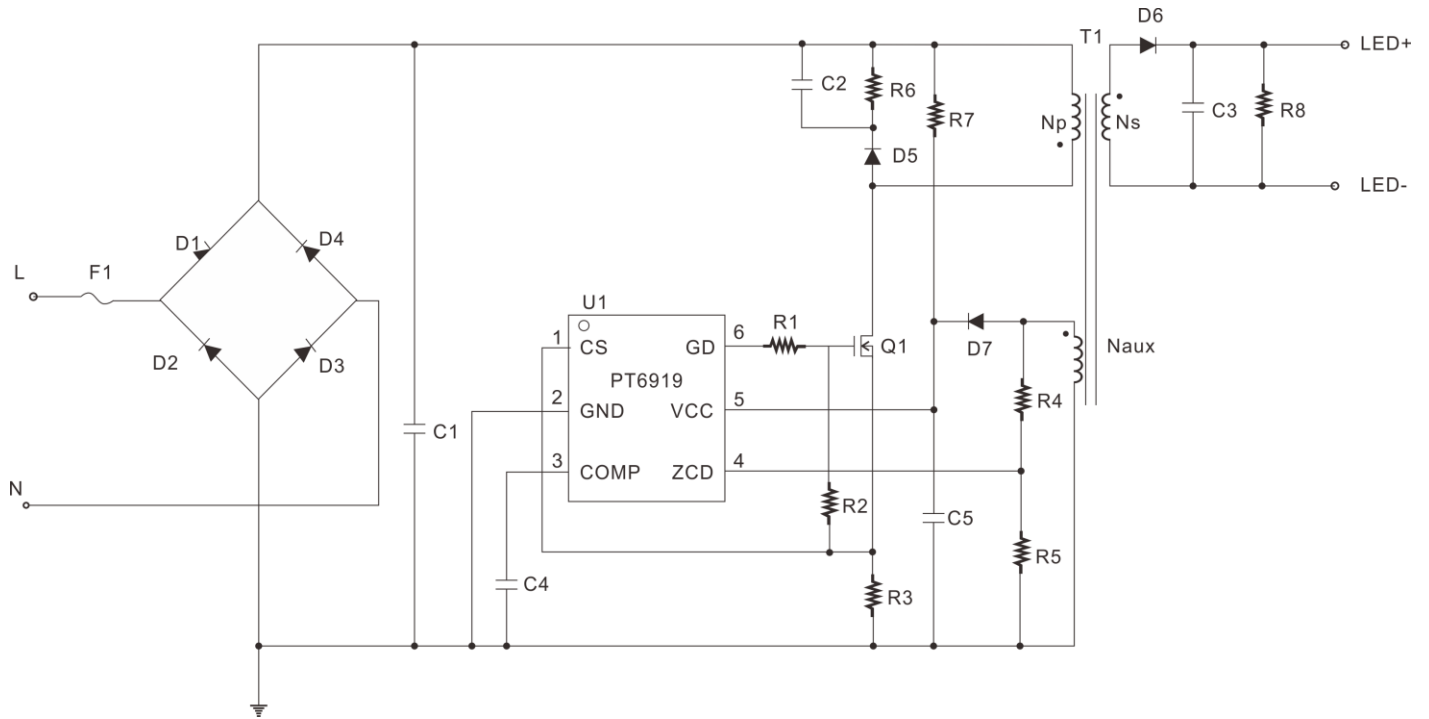
## FEATURES

- High PF > 0.9 with single stage conversion.
- Real-current control technique achieves accurate constant LED current.
- Primary Side Regulation eliminates secondary feedback circuit.
- Quasi-Resonant switching mode to achieve low switching losses.
- 0.3V primary current sense reference voltage leads to a lower conduction loss.
- $\pm 3\%$  output current accuracy.
- Excellent line regulation and load regulation.
- Reliable short LED and open LED protection.
- System auto-restart function.
- Low start-up current: 15 $\mu$ A typical.
- VCC over voltage protection (OVP).
- VCC under voltage lockout (UVLO).
- Cycle by cycle primary side current limiting.
- Over temperature protection (OTP).
- SOT23-6 package.

## BLOCK DIAGRAM



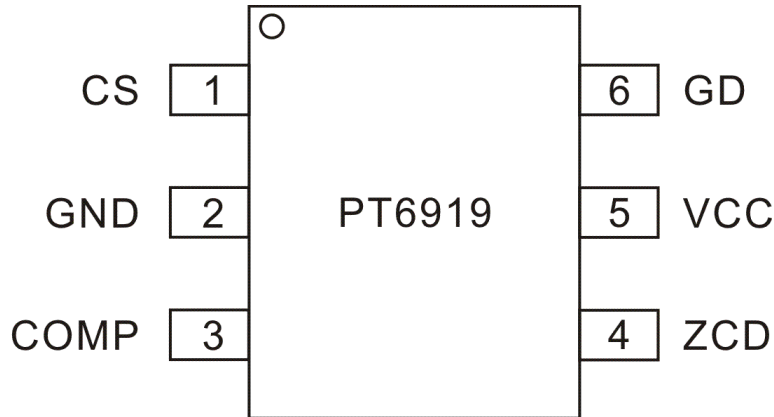
# TYPICAL APPLICATION



## ORDER INFORMATION

Valid Part Number	Package Type	Top Code
PT6919	SOT23-6	PT6919

## PIN CONFIGURATION



## PIN DESCRIPTION

Pin Name	Description	Pin No.
CS	Current sense pin. Sense the primary side current when the switch is turned on.	1
GND	IC Ground.	2
COMP	Loop compensation pin.	3
ZCD	Inductor current zero-crossing detection pin. This pin also provides over voltage protection (OVP), short circuit protection (SCP) and line regulation modification function.	4
VCC	Power supply pin.	5
GD	Gate driver pin. Connect to the gate of primary power MOSFET.	6

## **IMPORTANT NOTICE**

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