

Off-Line Primary Side Regulation LED Controller with PFC

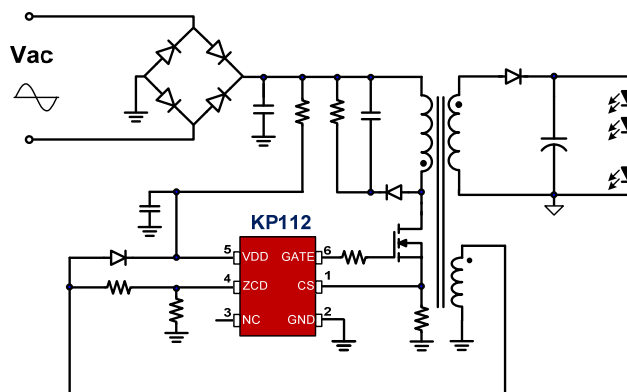
FEATURES

- Low Cost PSR LED Driver Solution with Up to 90% Efficiency
- Universal Input Voltage Range with High PF>0.95 and Low THD<15%
- Fast Start-Up <500ms
- Quasi-Resonant (QR) Operation for High Efficiency and Good EMI
- Fully Digital PWM Control without External Compensator
- Internal Compensation for Good Line and Load regulation
- Built-in Protections:
 - LED Short and Open
 - Current Sense resistor Short and Open
 - Over Voltage Protection (OVP) on VDD
 - Cycle-by-cycle Current Limiting
 - Line Absent Protection
 - Over Temperature Protection (OTP)
 - Internal Soft Start
- SOT23-6L Package Available

APPLICATIONS

- LED Lamps
- Solid State Lighting

TYPICAL APPLICATION CIRCUIT



GENERAL DESCRIPTION

KP112 is the pulse-width modulated (PWM) controller with integrated low side gate driver, which is intended for driving low to medium power single stage power AC-DC LED drivers with factor correction (PFC).

Digital PWM control scheme is adopted in KP112 to achieve high power factor and excellent LED current regulations without external compensator. With priority primary side current sensing technology, KP112 provide the low cost LED design with few external components. Additionally, the quasi-resonant switching techniques provide good EMI and high system efficiency performance for Flyback and Buck/Boost topology.

The fault protection features for KP112 include Under Voltage Lockout (UVLO), LED open or short, Current sense resistor short or open protection, Over Voltage Protection (OVP) and thermal protection function (OTP). Moreover, for high efficiency, the device features low startup current enabling fast, low loss charging of the VDD capacitor.