DESCRIPTION

MT9545LR is a high-PF, non-isolated, BUCK LED Driver IC with integrated rectifier bridge and ultra-fast recovery freewheeling diode. MT9545LR works in Quasi-Resonant Mode (QRM), which improves both of efficiency and EMI performance.

MT9545LR integrates the ultra-high voltage power supply circuit and external VDD capacitor is not needed. The system realizes error integration through internal digital integrator, which eliminates COMP pin and COMP capacitor.

MT9545LR provides various protections with self-recovery, such as input over-voltage protection (OVP), cycle-by-cycle over-current protection (OCP), over-temperature protection, and output short-circuit protection, etc. to improve reliability. The chip provides the output over-voltage protection threshold through an external circuit connected to the ROVP pin (e.g., open circuit, GND or a resistor with different values). MT9545LR integrates rectifier bridge, freewheeling diode, feedback circuit and high-voltage MOSFET, which further simplifies external circuit and saves the BOM cost.

APPLICATIONS

- LED bulb, Spotlight
- LED tube
- Other LED lighting applications

FEATURES

- Single-stage active power factor correction (PF > 0.70)
- Integrated rectifier bridge
- Internal ultra-fast recovery freewheeling diode
- Integrated ultra-high voltage power supply without external VDD capacitor and external power supply circuit
- Embedded digital integrator, no COMP capacitor needed
- Internal line voltage compensation
- Internal demagnetization sensing, no external feedback circuit needed
- High accurate LED current
- Good Line and Load Regulation
- Operates in QRM
- Integrated Input OVP, when input voltage is higher than 375Vac, turns off the power switch, resumes at input voltage below 320Vac. Enhances anti-surge capability and improves system reliability
- Various protections with self-recovery
- Set different output OVP thresholds through ROVP pin
- Power on soft-start
- Available in ASOP7 packages

TYPICAL APPLICATION CIRCUIT