

## DESCRIPTION

The MT9522LR is a high-PF, non-isolate, BUCK LED Driver IC with integrated rectifier bridge and ultra-fast recovery freewheeling diode. MT9522LR works in Quasi-Resonant Mode (QRM), which improves both of efficiency and EMI performance.

The system integrates the ultra-high voltage power supply circuit. The external VDD capacitor is not needed. The system realizes error integration through internal digital integrator, which eliminates COMP pin and COMP capacitor. MT9522LR can meet low THD and odd harmonic requirements through internal THD compensation circuit.

Various protections with self-recovery, such as input over voltage protection (OVP), cycle-by-cycle over current protection (OCP), over temperature protection, output short-circuit protection, etc. are embedded to improve reliability. The chip programs 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).

The MT9522LR 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 > 0.90)
- 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
- Integrated THD compensation circuit
- Integrated odd harmonic compensation circuit for high subharmonic distortion suppression
- Internal line voltage compensation
- Internal demagnetization sensing, no external feedback circuit needed
- High accurate LED current
- Good Line and Load Regulation
- Quasi-Resonant mode (QRM) operation
- 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 and self-recovery
- Set different output OVP thresholds through ROVP pin
- Power on soft-start
- Available in ASOP7 packages

## TYPICAL APPLICATION CIRCUIT

