DESCRIPTION

MT7939F is a single-stage, primary side control AC-DC IC for LED driver with active power factor correction. MT7939F integrates on-chip PFC circuit which operates under critical conduction mode (CRM) to achieve high power factor and reduces the power MOS switching loss. With innovative control technique, precision LED current is achieved without secondary side sense and feedback circuit including opto-coupler.

MT7939F provides various protections, such as input over/under-voltage protection, over-current protection (OCP), output over-voltage protection (OVP), short-circuit protection (SCP) and over-temperature regulation (OTR), etc., to improve system reliability. Moreover, MT7939F is designed with thermal regulation setting pin TADJ, which allows flexible setting of the thermal regulation threshold by connecting an external resistor to ground.

APPLICATIONS

- AC/DC LED driver applications
- Signal, decorative LED lighting and street light
- E27/PAR30/PAR38/GU10 etc. LED lamp
- LED fluorescent lamp

FEATURES

- Single-stage active PFC for high power factor
- Output current foldback at low input voltage
- Internal integrator (no external COMP capacitor)
- Internal THD compensation circuit
- Internal line regulation
- Primary side control saving opto-coupler
- High precision LED current (±5%)
- Operates under CRM
- Cycle-by-cycle current limiting
- Various protections with self-recovery
  - Input over/under voltage protection
  - Over current protection
  - Output over-voltage/open-circuit protection
  - Short circuit protection
- Flexibly set thermal regulation threshold through TADJ
- Power on soft-start
- Available in SOP8 packages

TYPICAL APPLICATION CIRCUIT