
1W-30W Offline HB LED Controller

FEATURES

- Low cost fly-back system solution
- Frequency Jittering for Improved EMI Performance
- Low start-up and low operation current
- Current mode operation
- Leading-edge blanking on current sense input
- Programmable PWM frequency
- Complete set of protection functions
 - Cycle-by-cycle current limiting (OCP)
 - Over voltage protection (OVP) and under voltage lockout (UVLO)
 - GATE output maximum voltage clamped at 18V
 - Output short circuit protection

APPLICATION

- For various HB LED lighting system with power range of 1W through 30W, including E27, P30, P38 etc.

GENERAL DESCRIPTION

PT4201 is a current mode HB LED driver controller, designed to drive HB LED lighting systems from 1W through 30W. The LED lighting systems based on the PT4201 enjoys the advantages of high current accuracy, high efficiency, low external component count and low EMI. The PWM switching frequency at normal operation is externally programmable and trimmed to a tight range. The built in LEB on the current sense input efficiently removes the signal glitch due to snubber circuit diode reverse recovery and will greatly reduce the external component count and system cost in the design. Rich protection is implemented in PT4201 including cycle-by-cycle current limiting (OCP), over load protection (OLP), VDD over voltage clamp and under voltage lockout (UVLO). Gate drive output is clamped at 18V to protect the power MOSFET.

Excellent EMI performance is achieved with C.R.PowTech proprietary frequency Jittering technique together with soft driving control at totem pole gate drive output. The PT4201 also provides short circuit protection which shuts down the system when short circuit occurs.

The PT4201 is available in SOT23-6 packages.

TYPICAL APPLICATIONS

