



MP4032-1

Primary-Side-Controlled, Offline LED Driver with Fully-Integrated Internal MOSFET

The Future of Analog IC Technology®

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DESCRIPTION

The MP4032-1 is a TRIAC-dimmable, primary-side-controlled, offline, LED lighting driver with an integrated 500V MOSFET. It can achieve a high power factor and accurate LED current control for lighting applications in a single-stage converter. The proprietary real-current control can accurately control the secondary-side LED current using primary-side information. It simplifies LED lighting systems and increases efficiency by removing the secondary feedback components and the current-sensing resistor.

The MP4032-1 has a power-factor-correction function and works in boundary-conduction mode that reduces power losses. The DRAIN pin can supply current to the internal charging circuit for start-up without a perceptible delay. The proprietary dimming control extends the TRIAC-based dimming range.

The multiple protections greatly enhance system reliability and safety. These protections include VCC under-voltage lockout, LED over-voltage and over-current protections, short-circuit protection, and over-temperature protection.

The MP4032-1 is available in an SOIC8-7A package.

FEATURES

- Real Current Control without Secondary Feedback Circuit
- Internal MOSFET with 500V High Voltage Rating
- Less than 6W Output Power
- Internal Charging Circuit for Fast Start-Up
- Accurate Line Regulation
- Flicker-Free, Phase-Controlled TRIAC Dimming with Extended Dimming Range
- High Power Factor
- Boundary-Conduction Mode
- VCC UVLO
- Cycle-by-Cycle Current Limiting
- Over-Voltage Protection
- Short-Circuit Protection
- Over-Temperature Protection
- Available in SOIC8-7A Package

APPLICATIONS

- Solid-State Lighting
- Industrial and Commercial Lighting
- Residential Lighting

All MPS parts are lead-free and adhere to the RoHS directive. For MPS green status, please visit MPS website under Products, Quality Assurance page.

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The MP4032-1 is patent pending.



Warning: Although this board is designed to satisfy safety requirements, the engineering prototype has not been agency approved. Therefore, all testing should be performed using an isolation transformer to provide the AC input to the prototype board.

TYPICAL APPLICATION

