

DESCRIPTION

The MP2341 is a 24V monolithic synchronous step-down white LED driver with a built-in power MOSFET and rectifier. It achieves up to 2A continuous output current with excellent load and line regulation.

Peak current mode control operation provides very fast transient response and easy loop design as well as very tight output regulation.

Fault condition protection includes cycle-by-cycle peak current limiting, output short circuit protection, open LED protection and thermal shutdown.

The MP2341 requires a minimal number of readily-available, standard, external components and is available in a space-saving SOT583 package.

FEATURES

- Wide 4.2V-to-24V Operating Input Range
- 125mΩ/75mΩ Low- $R_{DS(ON)}$ Internal Power MOSFETs
- High-Efficiency Synchronous-Mode Operation
- Forced PWM Mode
- Fast Load Transient Response
- 1MHz Switching Frequency
- Internal Soft-Start
- Analog Dimming by DC voltage through EN/DIM
- Analog Dimming by PWM signal through PDIM
- PWM Dimming by PWM signal through EN/DIM
- 50:1 Dimming Ratio by Analog Dimming
- 1000:1 Dimming Ratio by PWM Dimming
- LED Open Protection
- Over-Current Protection and Hiccup
- Over Voltage Protection with Auto Recovery
- Thermal Shutdown
- 100mV Feedback Voltage
- Available in a SOT583 package

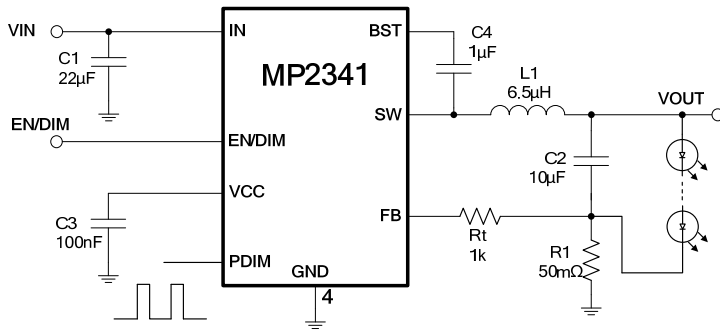
APPLICATIONS

- Infrared LED Driver
- General LED Driver
- Flashlight
- Handheld Computers Backlight

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.

"MPS" and "The Future of Analog IC Technology" are registered trademarks of Monolithic Power Systems, Inc.

TYPICAL APPLICATION



Efficiency vs. VIN

2 WLEDs in series, $V_{OUT}=5.9V$, $L = 6.5\mu H$, $I_{LED}=2A$

