

2MHz, 1.5A Flash LED Driver with Low-Vin Protection in UDFN

Features

- Drive up to 1.5A flash current
- Programmable threshold low-voltage input protection
- High efficiency converter (up to 90%)
- Input voltage range: 2.7V to 5.5V
- 2MHz step-up converter
- Very small inductor: 1.0 μ H to 2.2 μ H
- Very small load capacitor: 4.7 μ F to 10 μ F
- ExpressWire™ digital control enables and programs flash and movie current in 16 steps
- External resistor sets maximum flash current
- Integrated thermal regulation control
- 2mA LED shorting test current and 1.7V forward voltage threshold
- LED open/short protection
- Over-voltage protection
- Cycle-by-cycle inductor current limit
- Programmable Flash Timeout protection 0.1 μ A shutdown current
- Pb-free Package: UDFN22-10L
- -40°C to +85°C Temperature Range

Applications

- Mobile Phones
- Smart Phones and PDAs
- Digital Still Cameras

Brief Description

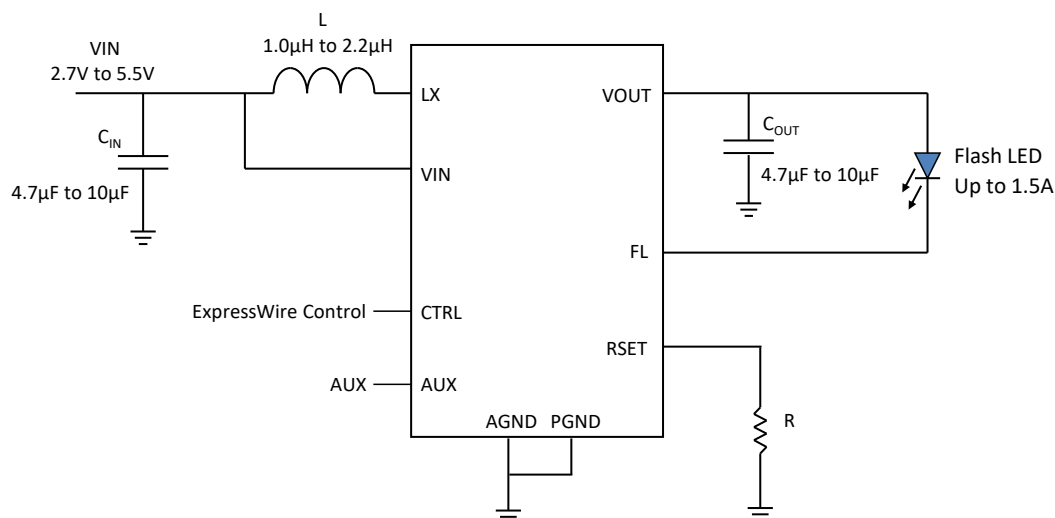
KTD2694 is the ideal power solution for high-power flash LEDs used with cell phone camera modules or digital still cameras. It is a highly integrated step up DC-DC converter with very high switching frequency, fixed at 2MHz, providing a very small total solution for portable photo flash. KTD2694 uses ExpressWire single-wire programming for maximum flexibility. The maximum flash-mode LED current is set by an external resistor, and the flash-mode and movie-mode currents can be programmed in 16 steps by the ExpressWire interface at CTRL pin. An AUX pin allows highest priority ON/OFF flash mode control. KTD2694 internally monitors the input voltage, disabling LED current when the supply drops below the programmed threshold voltage.

The LED output sink can drive up to 1.5A continuous LED current. Thermal regulation is integrated in flash mode to limit the IC's temperature and continuously provide the maximum allowed output current.

Various protection features are built into KTD2694, including cycle-by-cycle input current limit protection, output over-voltage protection, LED fault (open or short) protection, flash timeout protection and thermal shutdown protection. The leakage current in shutdown mode is 0.1 μ A.

KTD2694 is available in a RoHS and Green compliant 10-lead 2mm x 2mm x 0.52mm UDFN package.

Typical Application





Ordering Information

| Part Number | Marking ¹ | Operating Temperature | Package |
|---------------|----------------------|-----------------------|-----------|
| KTD2694EDQ-TR | KLYYZ | -40°C to +85°C | UDFN22-10 |

1. "YYZ" is the date code and assembly code.

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