

Product Overview

CAT4137: White LED Driver, CMOS Boost Converter

For complete documentation, see the data sheet.

The CAT4137 is a DC/DC step-up converter that delivers a regulated output current. Operation at a constant switching frequency of 1 MHz allows the device to be used with small value external ceramic capacitors and inductor. The device drives a string of white LEDs connected in series and provides the regulated current to control the LEDs with inherent uniform brightness and matching. An external resistor R1 sets the output current and allows up to 30 mA current to be supported over a wide range of input supply voltages from 2.2 V to 5.5 V, making the device ideal for battery-powered applications. LED dimming can be done by using a DC voltage, a logic signal, or a pulse width modulation (PWM) signal. The shutdown control pin allows the device to be placed in power-down mode with 'zero' quiescent current. In addition to thermal protection and overload current limiting, the device also enters a very low power operating mode during 'Open LED' fault conditions. The device is housed in a low profile (1 mm max height) 5-lead thin SOT23 package for space critical applications.

Features

- Drives up to 5 White LEDs from 3V
- Power Efficiency up to 87%
- Low Quiescent Ground Current 0.1 mA
- Adjustable Output Current (up to 30 mA)
- High Frequency 1MHz Operation
- "Zero" current shutdown mode
- Operates down to 2 V (from two AA batteries)
- Soft start power-up
- Open LED low power mode
- Automatic shutdown at 1.9 V (UVLO)

For more features, see the data sheet

Applications

- LCD Backlighting

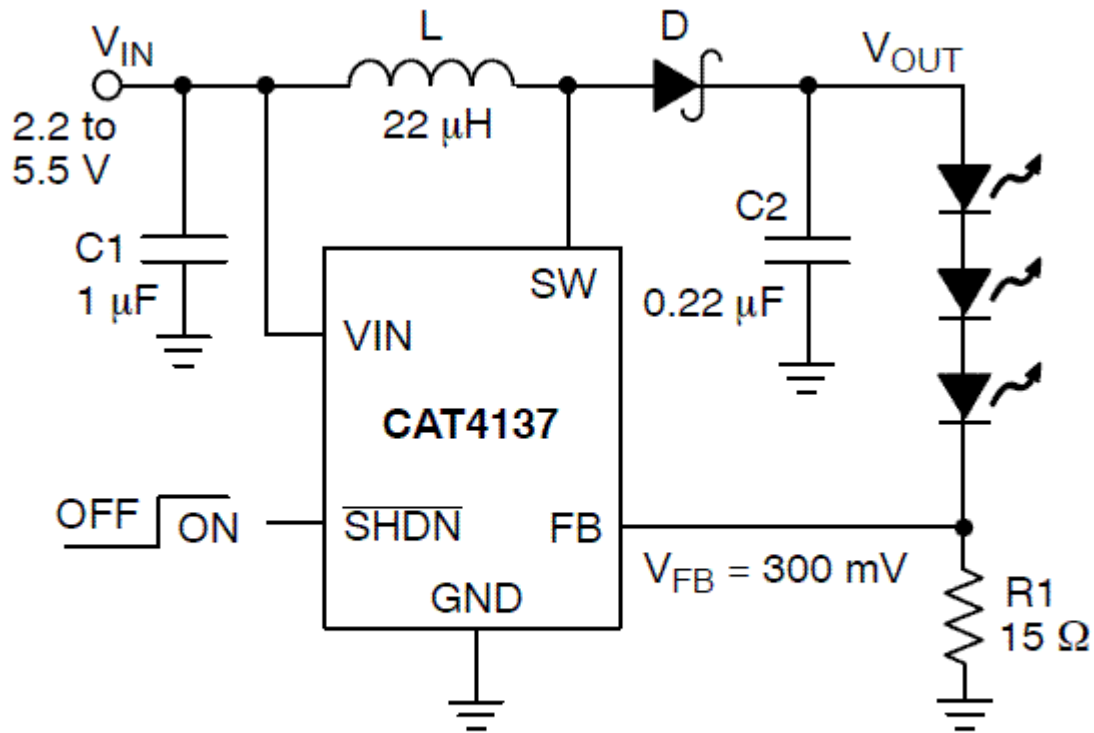
End Products

- Mobile Phones
- Digital Still Cameras

Part Electrical Specifications

| Product | Pricing (\$/Unit) | Compliance | Status | Topology | V _{IN} Min (V) | V _{IN} Max (V) | V _O Max (V) | I _O Max (mA) | f _{sw} Typ (kHz) | Package Type |
|---------------|-------------------|--|--------|----------|-------------------------|-------------------------|------------------------|-------------------------|---------------------------|--------------|
| CAT4137TD-GT3 | 0.4267 | Pb-free Halide free non AEC-Q and PPAP | Active | Step-Up | 2.2 | 5.5 | 24 | 30 | 1000 | TSOT-23-5 |

Application Diagram



L: Murata LQH32CN220

D: Central CMDSH2-3 (rated 30 V)

For more information please contact your local sales support at www.onsemi.com.

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