

Product Overview

CAT4237: White LED Driver, CMOS Boost Converter, High Voltage

For complete documentation, see the data sheet.

The CAT4237 is a DC-DC step-up converter that delivers an accurate constant current ideal for driving LEDs. Operation at a constant switching frequency of 1 MHz allows the device to be used with small value external ceramic capacitors and inductor. LEDs connected in series are driven with a regulated current set by the external resistor R1. LED currents up to 40 mA can be supported over a wide range of input supply voltages from 2.8 V to 5.5 V, making the device ideal for battery-powered applications. The CAT4237 high-voltage output stage is perfect for driving six, seven or eight white LEDs in series with inherent current matching in LCD backlight applications. LED dimming can be done by using a DC voltage, a logic signal, or a pulse width modulation (PWM) signal. The shutdown input 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.

Features

- Drives 6 to 8 White LEDs in series from 3 V
- Up to 87% efficiency
- Low Quiescent Ground Current 0.6 mA
- Adjustable Output Current (up to 40 mA)
- High Frequency 1 MHz Operation
- High Voltage Power Switch
- Shutdown current less than 1 μ A
- Open LED low power mode
- Automatic Shutdown at 1.9 V (UVLO)
- Thermal shutdown protection

For more features, see the data sheet

Applications

- Color LCD and Keypad Backlighting
- Digital Cameras

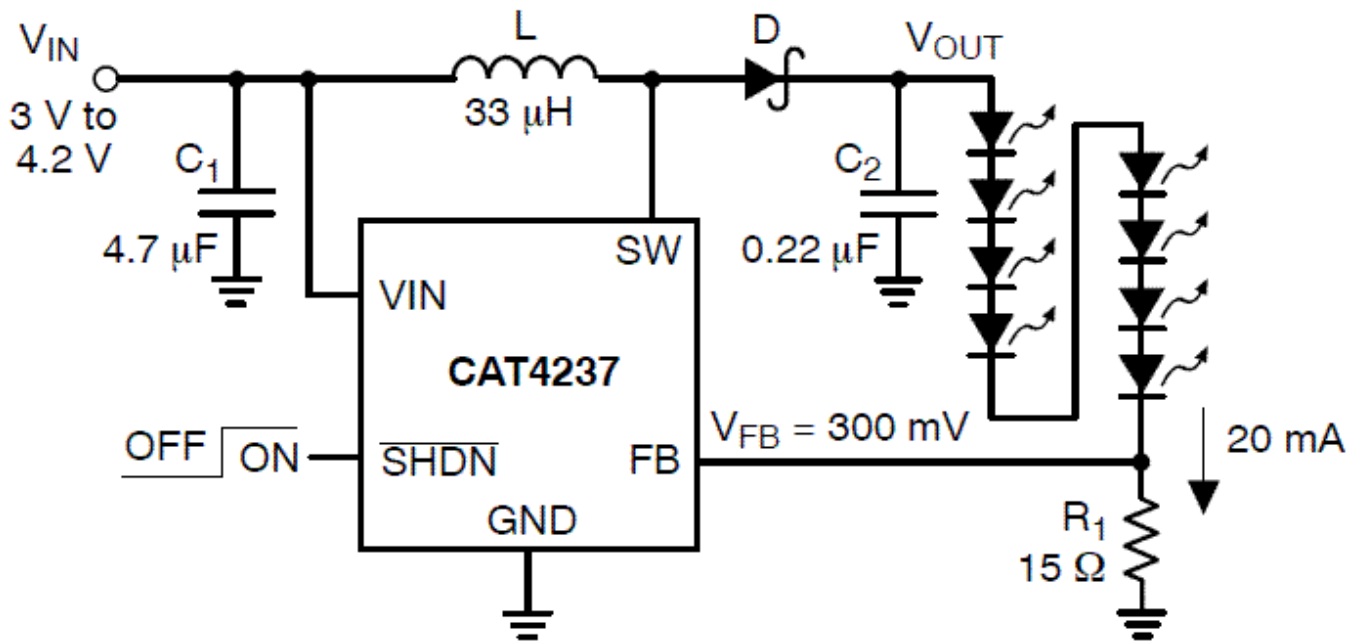
End Products

- Mobile Phones
- Portable Gaming Systems

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
CAT4237TD-GT3	0.6881	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up	2.8	5.5	30	100	1000	TSOT-23-5

Application Diagram



L: Sumida CDRH3D16-330

D: Central CMDSH05-4 (rated 40 V)

C2: Taiyo Yuden UMK212BJ224 (rated 50 V)

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

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