

## Product Overview

### CAT4238: LED Driver, Boost Converter, High Efficiency

For complete documentation, see the data sheet.

The CAT4238 is a DC-DC step-up converter that delivers an accurate constant current ideal for driving LEDs. Operation at a fixed 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 up to 5.5 V, making the device ideal for battery-powered applications. The CAT4238 high-voltage output stage is perfect for driving mid-size and large panel displays containing up to ten white LEDs in series. 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 High Voltage LED strings (38 V)
- Up to 87% Efficiency
- Low Quiescent Ground Current 0.6 mA
- Adjustable Output Current
- 1 MHz Fixed Frequency Low noise Operation
- Soft start & "in-rush" current limiting
- Shutdown current less than 1  $\mu$ A
- Open LED Overvoltage Protection
- Automatic Shutdown at 1.9 V (UVLO)
- Thermal overload protection

For more features, see the data sheet

### Applications

- LED Drive in battery Powered Devices

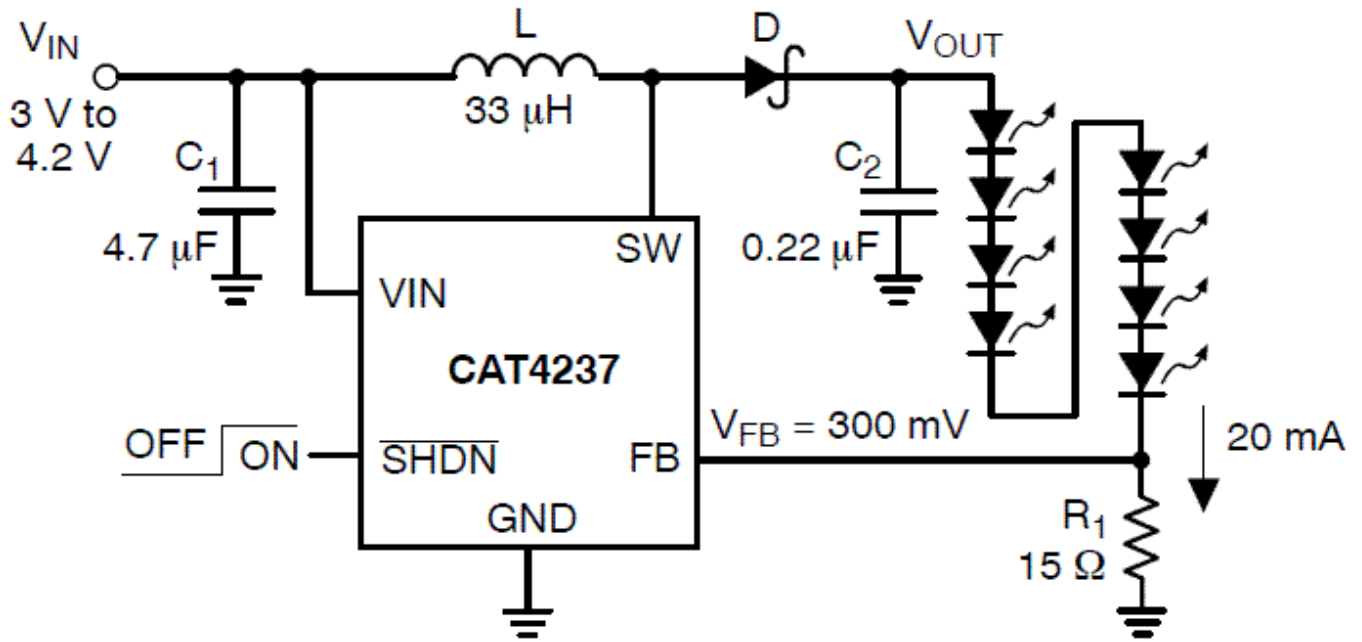
### End Products

- GPS Navigation Systems
- Portable Gaming Systems
- Digital Still Cameras

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	V <sub>IN</sub> Min (V)	V <sub>IN</sub> Max (V)	V <sub>O</sub> Max (V)	I <sub>O</sub> Max (mA)	f <sub>SW</sub> Typ (kHz)	Package Type
CAT4238TD-GT3	0.4947	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Up	2	5.5	38	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)

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