

Product Overview

CAT4106: LED Driver, 4-Channel, 6 Watt with Diagnostics

For complete documentation, see the data sheet.



The CAT4106 is an integrated multi-channel LED driver and high power dc-dc converter suitable for powering backlighting applications up to a total of 6 watts. Up to four matched LED strings can be accurately programmed with uniform drive current set by a single external resistor. Each output channel is suitable for LED string voltages of up to 36 V. The driver automatically adjusts the output voltage to drive the highest forward voltage string with the minimum headroom voltage maximizing the efficiency. High resolution dimming control is achieved by the EN/PWM logic pin which supports multiple frequencies. This ensures precise PWM dimming control while the device remains fully biased. In addition, when held at logic low, the device to enter a full shutdown 'zero' current mode. External programming resistors set the minimum and maximum voltage limits for the acceptable 'window of operation' for LED strings. Any channel which fails to regulate within the window (Open or Short LED) is detected and flagged on the FAULT logic output (active low, open-drain). The device is available in a 16-lead TQFN 4 mm x 4 mm and TSSOP with exposed pad packages.

Features

- Four LED Channels with Tight Current Matching
- Integrated DC-DC Boost Converter
- Up to 6 W LED Total Output Power
- Up to 92% Efficiency
- Low Dropout LED Channels (500 mV at 175 mA)
- High Frequency PWM Interface (Up to 2 kHz)
- Adjustable Short/Open LED Detection
- Programmable LED Channel Current
- Adjustable LED Channel Voltage

Applications

- LCD Backlighting

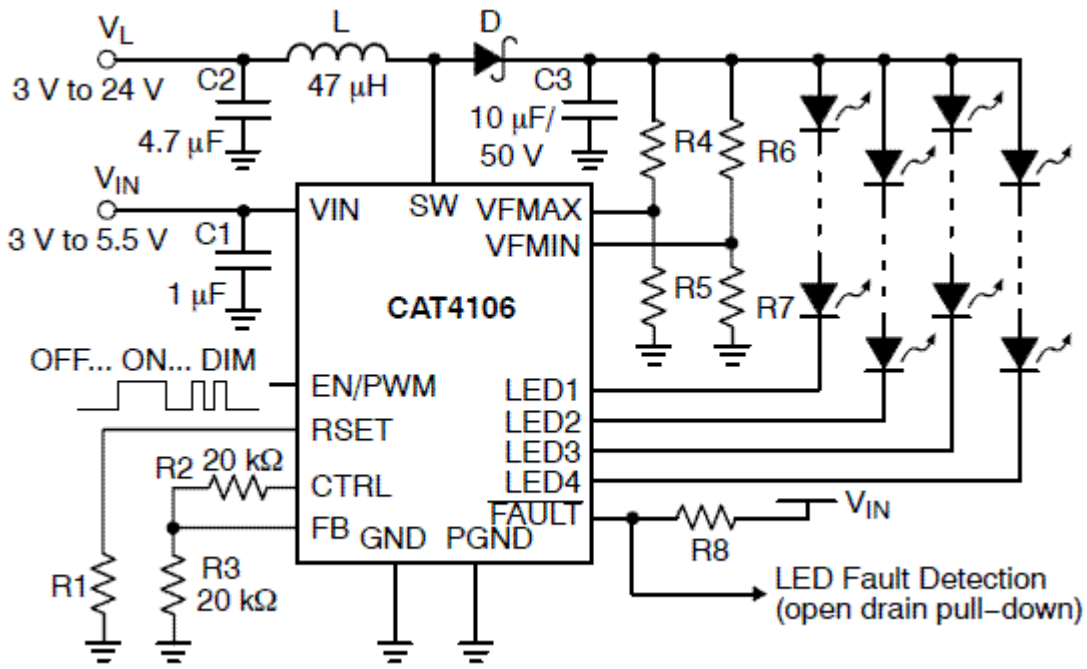
End Products

- Automobiles

Part Electrical Specifications

Product	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
CAT4106HV4-GT2	Pb-free	Active	Step-Up	3	5.5	40	175	1000	TQFN-16
	Halide free								
CAT4106YP-T2	Pb-free	Active	Step-Up	3	5.5	40	175	1000	TSSOP-16
	Halide free								

Application Diagram



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

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