

Product Overview

CAT4026: LED Controller, 6-Channel, with Fault Diagnostics

For complete documentation, see the data sheet.



The CAT4026 is a high performance, large panel LED controller designed to control six constant current high voltage LED strings. Added control circuitry monitors the lowest cathode voltage and generates a feedback control signal to an external Switch Mode Power Supply (SMPS) to provide a low cost and efficient solution for large panel high voltage LED backlighting. Each LED channel current is accurately matched and controlled by sensing an external resistor in series with a low cost bipolar power transistor. This allows current and heat dissipation concerns to be mitigated from the CAT4026 device package. For added system reliability, both Open-Cathode-Anode (OCA) and Shorted-Cathode-Anode (SCA) fault detection circuitry has been included along with independent Fault flag logic outputs for diagnostic purposes. LED current dimming in all six channels can be precisely controlled by either a Pulse Width Modulation signal via the PWM input pin or by an analog dimming voltage applied at the ANLG pin. In addition the ANLG pin provides a convenient method for limiting the overall maximum power dissipation in the event of excessive LED shorting within any LED string. The device will automatically enter low current shutdown mode by taking the PWM pin low for an extended length of time.

Features

- Adaptive Feedback Control to External SMPS for Better Efficiency
- PWM and Analog Mode Dimming
- Open Cathode-Anode (OCA) Fault Protection
- 6 Channel LED Controller
- Short Cathode-Anode (SCA) Fault Protection
- Over-Voltage Protection
- Thermal Shutdown Protection
- Automatic Inactivity Power Down Mode

Benefits

- Enhanced power efficiency of the external SMPS
- Extended range of dimming control
- Robustness in case of LED disconnect or large LED string voltage mismatch

Applications

- LED Backlighting

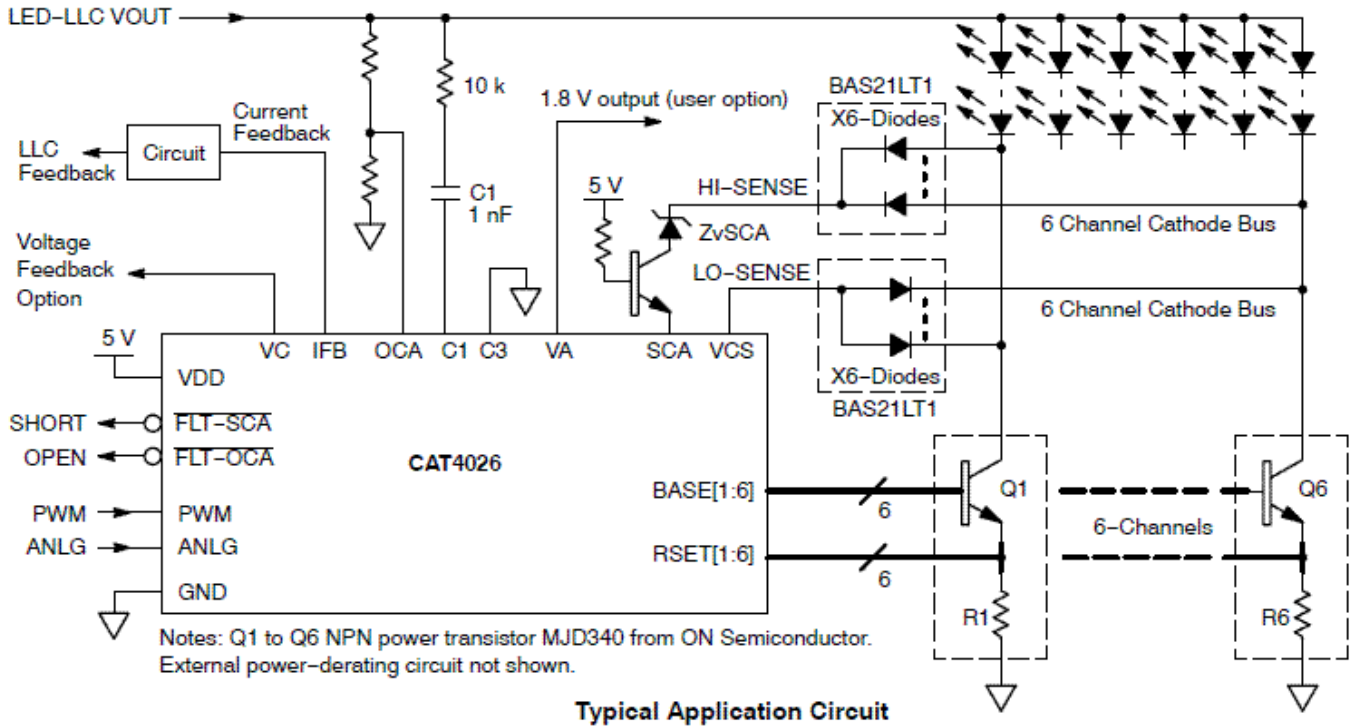
End Products

- LCD TVs

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	V _I Max (V)	I _O Max (mA)	LEDs in Series, Max #	LEDs in Parallel, Max #	Package Type
CAT4026V-T1	0.9333	Pb-free Halide free	Active	5.5	-	80	6	SOIC-28W

Application Diagram



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

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