Product Overview

NCV7691: Current Controller for Automotive LED Lamps

For complete documentation, see the data sheet.

The NCV7691 is a device which uses an external NPN bipolar device combined with feedback resistor(s) to regulate a current for use in driving LEDs. The target application for this device is automotive rear combination lamps. A single driver gives the user flexibility to add single channels to multichannel systems. A dedicated dimming feature is included via the PWM input pin. The individual driver is turned off when an open load or short circuit is detected.
LED brightness levels are easily programmed using an external resistor in series with the bipolar transistor. The use of the resistor gives the user the flexibility to use the device over a wide range of currents.
Multiple strings of LEDs can be operated with a single NCV7691 device.
Set back power limit reduces the drive current during overvoltage conditions.
The device is available in a SOIC-8 package.

Features

- Constant Current Output for LED String Drive
- External Bipolar Device for Wide Current Range Flexibility- With BCP56 Transistor, Can Drive 8 Strings Concurrently (ref. Datasheet Info)
- External Programming Current Resistor
- Pulse Width Modulation (PWM) Control
- Negative Temperature Coefficient Current Control Option
- Open LED String Diagnostic
- Short-Circuit LED string Diagnostic
- Multiple LED String Control
- Overvoltage Set Back Power Limitation
- AEC Q100 Qualified

  For more features, see the data sheet

Benefits

- Ideal for driving LED devices
- Customizable to the users system requirements
- Customizable to the users LED selection
- PWM control for better color output
- Compensation for LED temperature coefficient
- Reporting LED fault for all-off system requirements
- Reporting LED fault for all-off system requirements & eliminating resultant high power demands
- Promotes better system aesthetics
- Allows system operation in extreme conditions
- Automotive Requirement

Applications

- Rear Combination Lamps (RCL)
- Daytime Running Lights (DRL)
- Fog Lights
- Center High Mounted Stop Lamps (CHMSL) Arrays
- Turn Signal and Other Externally Modulated Applications

End Products

- Lighting Module
- Tail Lights
- Low Power Exterior Lighting
- Interior Lighting

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
NCV7691D10R2G		AEC Qualified PPAP Capable Pb-free Halide free	Active	50	null > 1000	4	24	SOIC-8

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

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