Product Overview

NCV7683: LED Driver, Automotive, Octal, 100 mA Sequencing

For complete documentation, see the data sheet.

The NCV7683 consists of eight 100 mA linear programmable constant current sources. The part is designed for use in the regulation and control of LED based Rear Combination Lamps and blinking functions for automotive applications. System design with the NCV7683 allows for two programmed levels for stop (100% Duty Cycle) and tail illumination (programmable Duty Cycle), or an optional external PWM control can be implemented.

LED brightness levels are easily programmed (stop is programmed to the absolute current value, tail is programmed to the duty cycle) with two external resistors. The use of an optional external ballast FET allows for power distribution on designs requiring high currents. Set back power limit reduces the drive current during overvoltage conditions. This is most useful for low power applications when no external FET is used.

Sequencing functionality is activated, controlled, and programmed by individual pins. In addition to programming of the sequence interval, the device can sequence 8 individual output channels, 4 pairs of output channels, 2 quad output channels, or all 8 at once (for multi IC use at high currents).

Enhanced features of this device are a global enable function and display sequencing.

The device is available in a SSOP-24 package with exposed pad.

Features

- Constant Current Outputs for LED String Drive
- LED Drive Current up to 100mA per Channel
- Open LED String Diagnostic with Open-Drain Output in All Modes
- Slew Rate Control
- Low Dropout Operation
- External Modulation Capable.
- On-Chip 800 Hz Tail PWM Dimming
- Single Resistor for Stop Current Set Point
- Single Resistor for Tail Dimming Set Point
- Overvoltage Set Back Power Limitation

For more features, see the data sheet

Benefits

- Current source drive optimized for LED drive.
- Flexibility for lower current LEDs.
- Detection of open loads is detected in STOP, TAIL, and Sequence On modes.
- Eliminates EMI concerns.
- Allows operation in Pre-Regulator Applications.
- User defined LED intensity.
- Removes PWM feature out of the microprocessor.
- Easily programmable across platforms.
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- Allow longer functionality in extended input voltage range..

Applications

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

End Products

- Automobile

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
NCV7683DQR2G		AEC Qualified PPAP Capable Pb-free Halide free	Active	40	200	4	24	SSOP-24 NB EP

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

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