

Product Overview

NCL30288: LED Driver, Power Factor Corrected Quasi-Resonant Primary Side Current Mode Controller

For complete documentation, see the data sheet.

The NCL30288 is an Ac-Dc power factor corrected flyback controller targeting isolated and non-isolated buck-boost/SEPIC constant current LED drivers. The controller operates in a quasi-resonant mode to provide optimal efficiency. Thanks to a novel control method, the device is able to tightly regulate a constant LED current from the primary side. This removes the need for secondary side feedback circuitry, biasing and an optocoupler. The device is highly integrated with a minimum number of external components. A robust suite of safety protection is built in to simplify the design. This device is specifically intended for very compact, space efficient designs.

Features

- Constant Current Control with Primary Side Feedback
 - Precise Current Regulation Accuracy
 - Power Factor Correction with low harmonic distortion
 - Line Feedforward for Enhanced Regulation Accuracy
 - Wide Vcc operating range
 - User Programmable Thermal Foldback
 - Latched and Auto-recoverable versions
 - Secondary Diode Short Protection
 - Open and Shorted LED Protection
 - Wide Temperature range of -40 to 125 °C
- For more features, see the data sheet

Benefits

- No Optocoupler or secondary control circuitry required
- No need for binning of LEDs or production trimming for accuracy
- Exceeds industry requirements for lighting
- Supports universal mains applications
- Simplifies support for range of LED forward voltages
- Protects LED Driver from overheating in severe situations
- Flexibility for fault handling
- Robust fault handling
- Robust fault handling of common LED system faults
- Supports outdoor and high temperature environments

Applications

- Integrated LED Drive Electronics

End Products

- LED Bulbs
- LED Power Supply Drivers
- LED Light Engines
- LED Tubes
- Electronic Control Gear for LED Systems

Part Electrical Specifications

Product	Compliance	Status	Topology	V _I Min (V)	V _I Max (V)	V _O Max (V)	I _O Max (mA)	f _{SW} Typ (kHz)	Package Type
NCL30288BSNT1G	Pb-free Halide free	Active	Step-Up/Step-Down/SEPIC	9.4	26		3000	Up to 150	TSOP-6

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

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