

Product Overview

NCL30082: Dimmable Quasi-Resonant Primary Side Current Mode Controller for LED Lighting with thermal foldback

For complete documentation, see the data sheet.

The NCL30082 is a PWM current mode controller targeting isolated flyback and non-isolated buck-boost constant current topologies. The controller operates in a quasi-resonant mode to provide high efficiency. Thanks to a novel control method, the device is able to precisely 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. The device supports analog/digital dimming and thermal foldback. While the NCL30082 has integrated fixed overvoltage protection, the designer has the option to program a lower OVP level.

Features

- Primary Side Sensing
 - Wide VCC Range
 - Precise LED Current Regulation of $\pm 1\%$ typical
 - 0.9 PF with passive valley fill
 - User Programmable Thermal Foldback
 - Analog and Digital Dimming Input
 - Secondary Diode Short Protection
 - VCC Undervoltage and overvoltage protection
 - Shorted Current Sense Fault Detection
 - Latched and Auto-recoverable versions
- For more features, see the data sheet

Benefits

- No Optocoupler or secondary control circuitry required
- Simplifies support for range of LED forward voltages
- No need for binned LEDs for forward voltage or production line trimming for accuracy
- Meets US Energystar® LED Bulb and Residential Luminaire Requirements
- Protects LED Driver from overheating in severe environments
- Supports intelligent drivers and energy saving modes
- Avoids overheating in fault condition
- Robust fault handling
- Protects from Manufacturing or Field Faults
- Flexibility for fault handling

Applications

- Integral LED Drive Electronics

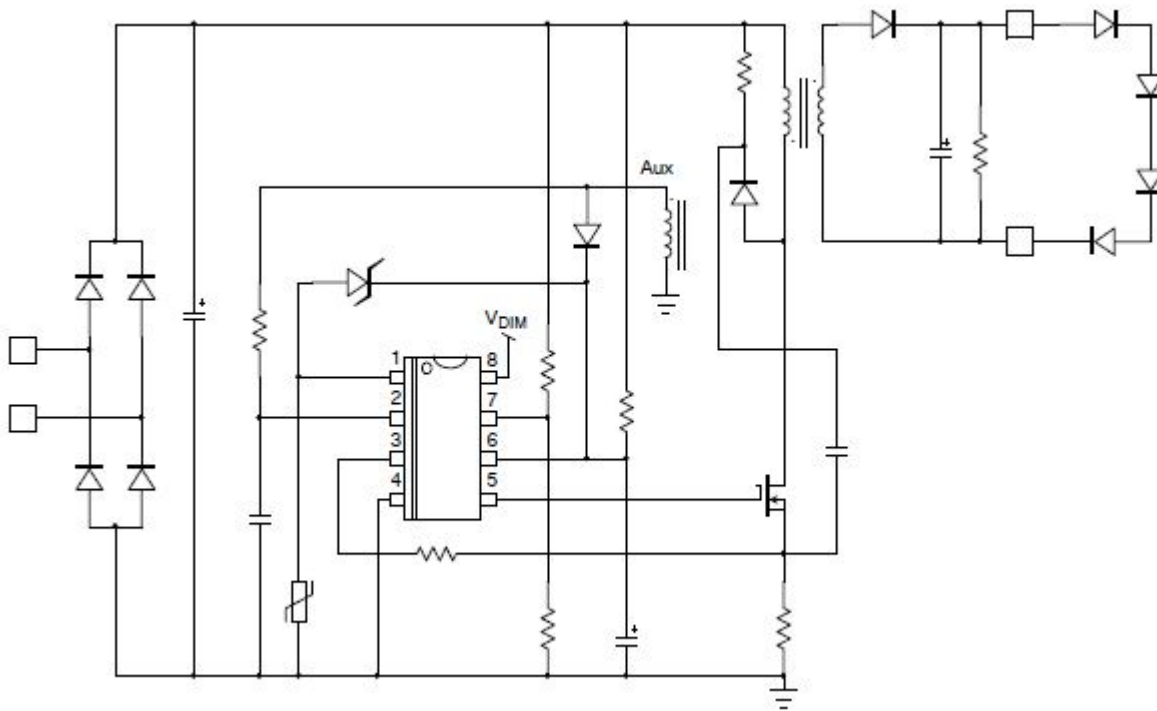
End Products

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

Part Electrical Specifications

Product	Pricing (\$/Unit)	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
NCL30082BDR2G	0.3733	Pb-free Halide free non AEC-Q and PPAP	Active	Flyback	9.4	26	200	3000	Up to 150	SOIC-8
NCL30082DDR2G	0.4133	Pb-free Halide free non AEC-Q and PPAP	Active	Flyback	9.4	26	200	3000	Up to 150	SOIC-8

Application Diagram



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

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