

Brief Description

The ZLED7x30 continuous-mode inductive step-down converter family is one of our ZLED LED-control ICs. It is designed for applications requiring high brightness and high current. The ZLED7x30 can efficiently drive a single LED or multiple series-connected LEDs from a voltage input higher than the LED forward voltage ($V_{in} = 8.5$ to 40VDC). It provides an adjustable output current (1.2A maximum), which is set via an external resistor and controlled by the ZLED7x30's integrated high-side output current-sensing circuit and high speed internal 40V power switch. Its low conducting impedance ensures high system efficiency.

The ZLED7x30 provides a switch dimming function. It detects external switch action to adjust output current, allowing dimming functionality to be achieved without changing the original lighting system circuitry.

The switch dimming is implemented in either two-level mode or three-level mode. The output current of every level and the total number of levels are customer selected by setting the corresponding input conditions of DIM1 and DIM2 pin.

The ZLED7x30 enables diverse industrial and consumer lighting applications requiring high driving currents, wide operating voltage range, high efficiency, and variable brightness control. It offers over-temperature and LED open-circuit protection. The ZLED7x30 can also minimize bill-of-material costs because very few external components are required for most applications. Only a resistor, a diode, an inductor, and three capacitors are needed for a typical basic application.

Features

- Switch dimming with multiple levels
- Three modes for output level settings
- Up to 1.2A output current
- Internal 40V power switch
- Wide DC input voltage range 8.5 to 40 VDC
- Output current accuracy: 5% (typical)
- LED open-circuit protection
- Thermal shutdown protection

Benefits

- High efficiency: up to 98%
- Very few external components needed for operation
- Adds switch dimming function to existing installation

Available Support

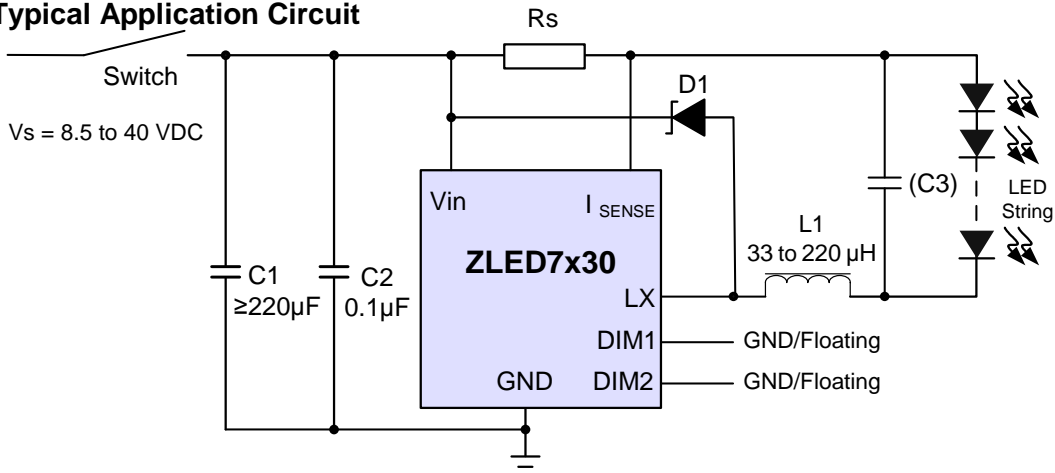
- Evaluation Kit

Physical Characteristics

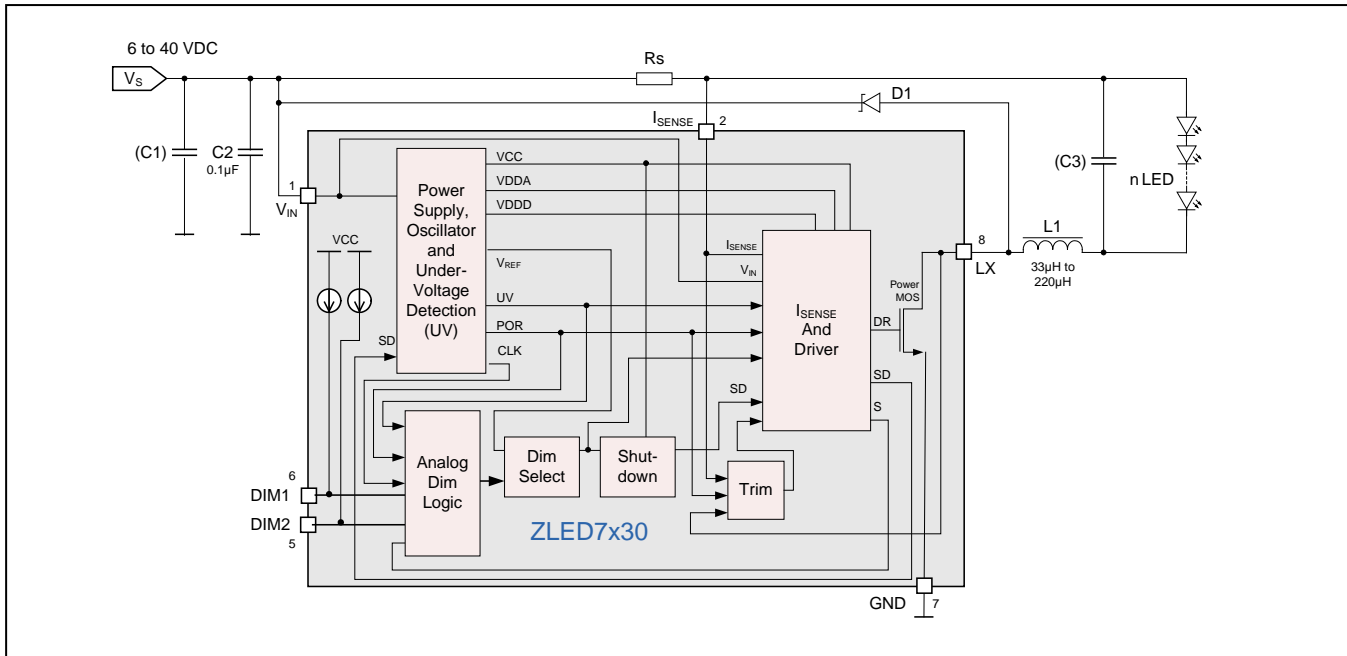
- Operating temperature: -40°C to 105°C
- Switching frequency: up to 1MHz
- SOP-8 package

ZLED7x30 Family Selection Matrix		
Product	Max. Current Output	Package
ZLED7030	1.2A	SOP-8
ZLED7330	1.0A	SOP-8
ZLED7530	0.75A	SOP-8
ZLED7730	0.35A	SOP-8

ZLED7x30 Typical Application Circuit



ZLED7x30 Block Diagram



Typical Applications

- ❖ Illuminated LED signs and other displays
- ❖ LED street and traffic lighting (low voltage)
- ❖ Architecture/building LED lighting
- ❖ LED backlighting
- ❖ Interior/exterior LED lighting
- ❖ MR16 LED spot lights
- ❖ Retrofit LED lighting fixtures
- ❖ General purpose industrial and consumer LED applications

Ordering Information

Product Sales Code	Description	Package
ZLED7030ZI1R	ZLED7030 – High Current (1200mA) 40V LED Driver with Switch Dimming	SOP-8 (Tape & Reel)
ZLED7330ZI1R	ZLED7330 – High Current (1000mA) 40V LED Driver with Switch Dimming	SOP-8 (Tape & Reel)
ZLED7530ZI1R	ZLED7530 – High Current (750mA) 40V LED Driver with Switch Dimming	SOP-8 (Tape & Reel)
ZLED7730ZI1R	ZLED7730 – High Current (350mA) 40V LED Driver with Switch Dimming	SOP-8 (Tape & Reel)
ZLED7030KIT-D1	ZLED7030-D1 Demo Board, 1 ZLED-PCB8 and 5 ZLED7030 ICs	Kit
ZLED-PCB8	Test PCB with one 5W white High Brightness (HB) LED, cascadable to one multiple LED string	Printed Circuit Board (PCB)

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(Rev.1.0 Mar 2020)

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