

# ZLED7320

High Current 40V LED Driver with Internal Switch

**ZMDI**<sup>®</sup>

The Analog Mixed Signal Company



## Brief Description

The ZLED7x20 continuous-mode inductive step-down converter family is part of our line of LED-control ICs. It is designed for applications requiring high brightness and high current. It can efficiently drive a single LED or multiple series-connected LEDs from a voltage input higher than the LED forward voltage:  $V_{in} = 6$  to 40 VDC. It provides an adjustable output current  $\leq 1.2A$ , which is set via an external resistor and controlled by the ZLED7x20's integrated high-side output current-sensing circuit and high speed internal 40V power switch. An external control signal, which can be a DC voltage, PWM, or microcontroller-generated waveform, on the ADJ pin can also be used to linearly adjust a continuous output current or to control a gated output current.

The output can be turned off by applying a voltage lower than 0.2V to the ADJ pin, which puts the ZLED7x20 in a low-current standby state.

The ZLED7x20 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 ZLED7x20 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

- Up to 1.0A output current
- Internal 40V power switch
- Wide DC input voltage range 6 to 40 VDC
- Output current accuracy: 3% (typical)
- Dimming ratio: 1200:1
- LED open-circuit protection
- Thermal shutdown protection

## Benefits

- High efficiency: up to 98%
- Single pin on/off and brightness control using DC voltage or PWM
- Very few external components needed for operation
- Footprint compatible to our ZLED7000 depending on the application.

## Available Support

- Evaluation Kit

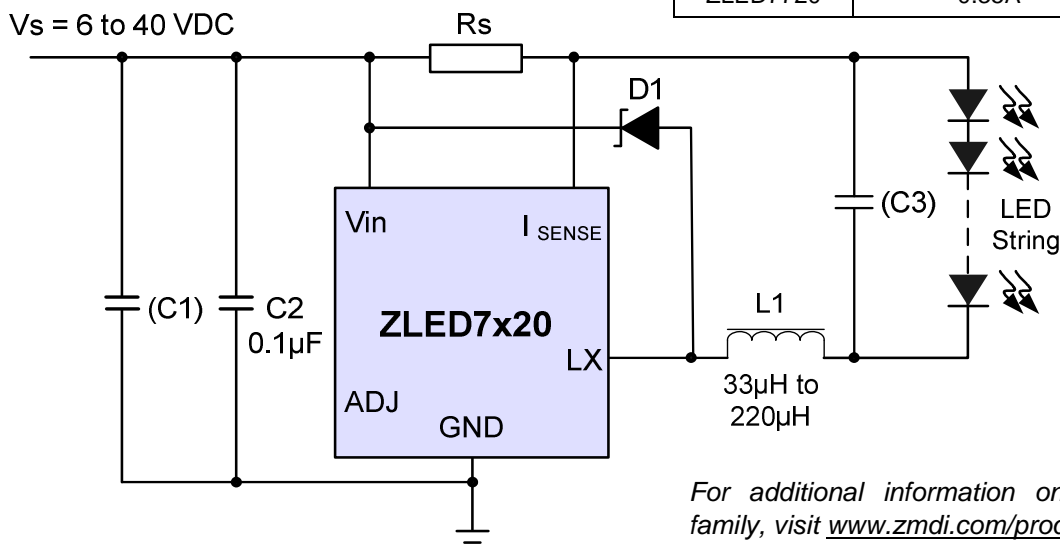
## Physical Characteristics

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

ZLED7x20 Family Selection Matrix

Product	Max. Current Output	Package
ZLED7020	1.2A	SOT89-5
ZLED7320	1.0A	DFN-5
ZLED7520	0.75A	DFN-5
ZLED7720	0.35A	DFN-5

## ZLED7x20 Typical Application Circuit



For additional information on our ZLED driver family, visit [www.zmdi.com/products/led-drivers/](http://www.zmdi.com/products/led-drivers/)

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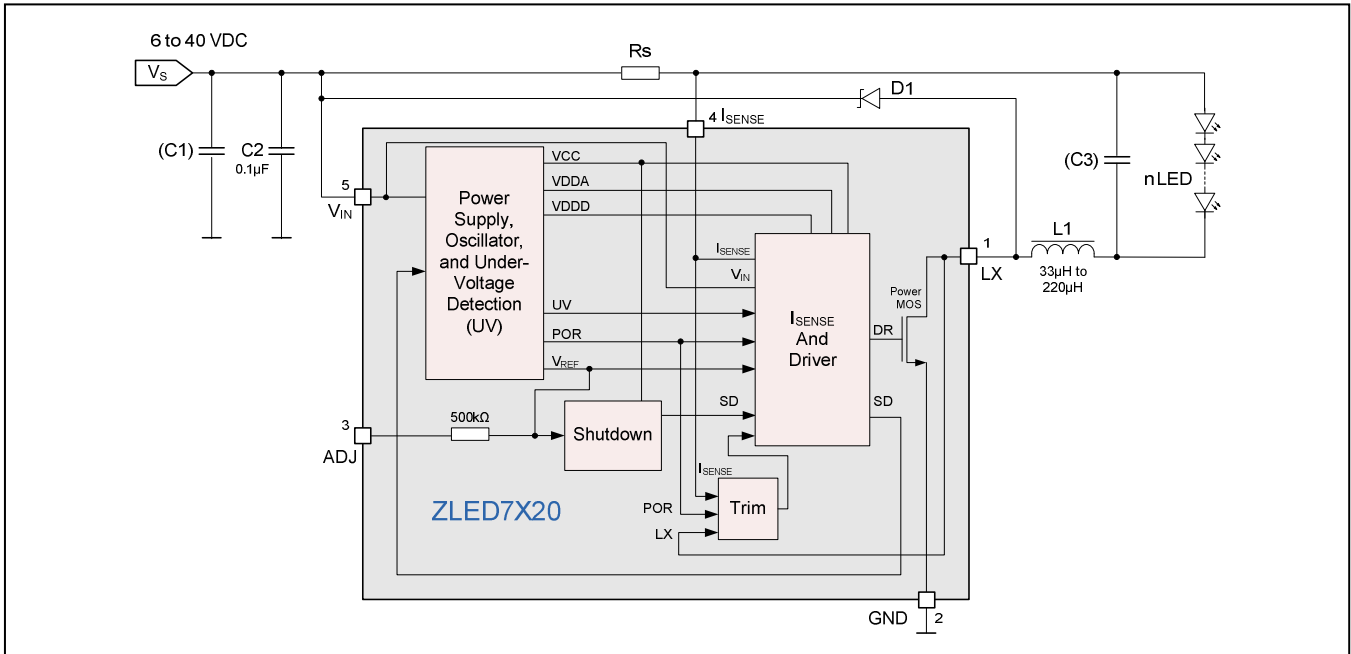
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## ZLED7x20 Block Diagram



### 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
ZLED7020-ZI1R	ZLED7020 – High Current (1200mA) 40V LED Driver with Internal Switch	SOT89-5 (Tape & Reel)
ZLED7320-ZI1R	ZLED7320 – High Current (1000mA) 40V LED Driver with Internal Switch	DFN-5 (Tape & Reel)
ZLED7520-ZI1R	ZLED7520 – High Current (750mA) 40V LED Driver with Internal Switch	DFN-5 (Tape & Reel)
ZLED7720-ZI1R	ZLED7720 – High Current (350mA) 40V LED Driver with Internal Switch	DFN-5 (Tape & Reel)
ZLED7020KIT-D1	ZLED7020-D1 Demo Board, 1 ZLED-PCB8 and 5 ZLED7020 ICs	Kit
ZLED-PCB8	Test PCB with one 5W white High Brightness (HB) LED, cascadable to one multiple LED string	Printed Circuit Board (PCB)

### Sales and Further Information

[www.zmdi.com](http://www.zmdi.com)

[LED\\_Drivers@zmdi.com](mailto:LED_Drivers@zmdi.com)

**Zentrum Mikroelektronik Dresden AG (ZMD AG)**  
Grenzstrasse 28  
01109 Dresden  
Germany

Phone +49 (0)351.8822.7.533  
Fax +49 (0)351.8822.8.7533

**ZMD America, Inc.**  
8413 Excelsior Drive  
Suite 200  
Madison, WI 53717  
USA

Phone +1 (608) 829-1987  
Fax +1 (631) 549-2882

**Zentrum Mikroelektronik Dresden AG, Japan Office**  
2nd Floor, Shinbashi Tokyu Bldg.  
4-21-3, Shinbashi, Minato-ku  
Tokyo, 105-0004  
Japan

Phone +81.3.6895.7410  
Fax +81.3.6895.7301

**ZMD FAR EAST, Ltd.**  
3F, No. 51, Sec. 2,  
Keelung Road  
11052 Taipei  
Taiwan

Phone +886.2.2377.8189  
Fax +886.2.2377.8199

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