

Brief Description

The ZLED7015, one of our ZLED family of LED control ICs, is a constant current boost converter with an internal high-power 35V switch. It is optimal for driving multiple white LEDs connected in series so that the LED current is uniform for better brightness and color control. It can also drive devices that require a constant voltage and is capable of operating efficiently with voltage supplies ranging from 6VDC to 30VDC. It is ideal for diverse lighting applications requiring low supply voltages such as SELV applications. Typically, smaller, less expensive external components can be used since the ZLED7015 switches at 1.0MHz (typical).

The ZLED7015 output current is adjustable via an external current sense resistor R_S connected from the FB pin to ground.

The ZLED7015 improves efficiency and minimizes power losses in the current setting resistor R_S by use of an internal 0.3V feedback reference voltage.

Dimming can be controlled using a pulse-width modulation (PWM) waveform or a DC voltage applied to the FB pin.

The ZLED7015 provides a “soft-start” function to prevent excessive in-rush current on start-up and ensures a controlled rise of the output voltage.

Over-voltage protection is adjustable via external resistors R_1 and R_2 .

Features

- Integrated 35V power switch
- Wide input range: 6VDC to 30VDC
- Over-temperature protection
- Over-voltage (open LED string) protection adjusted via external resistor divider
- Under-voltage lockout ensures reliable circuit operation
- Control of output current during start-up via internal “soft-start”
- Switching frequency: 1.0MHz
- Single pin on/off or brightness control via PWM, microcontroller, or DC voltage control signal input
- MSOP-10 package

Benefits

- High efficiency: up to 95% efficiency
- Few small, low-profile components needed for operation
- Small form-factor package

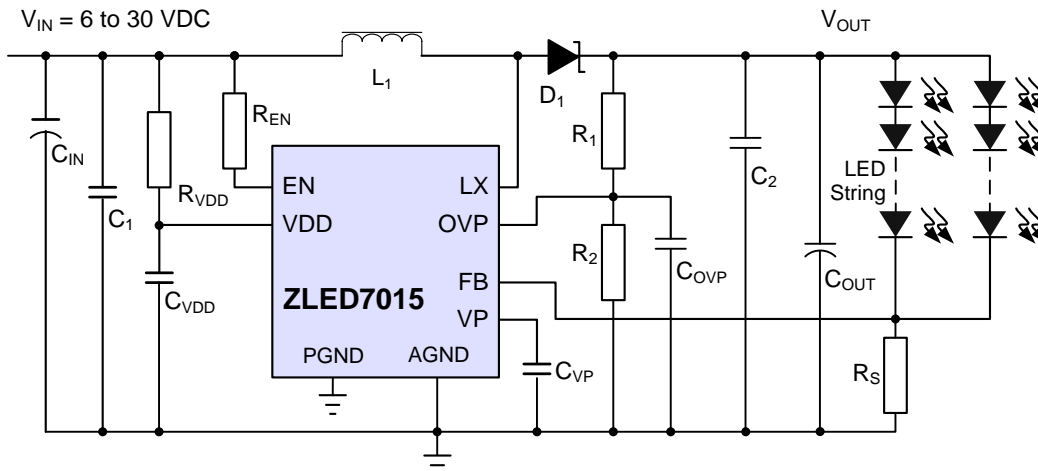
Available Support

- Evaluation Kit

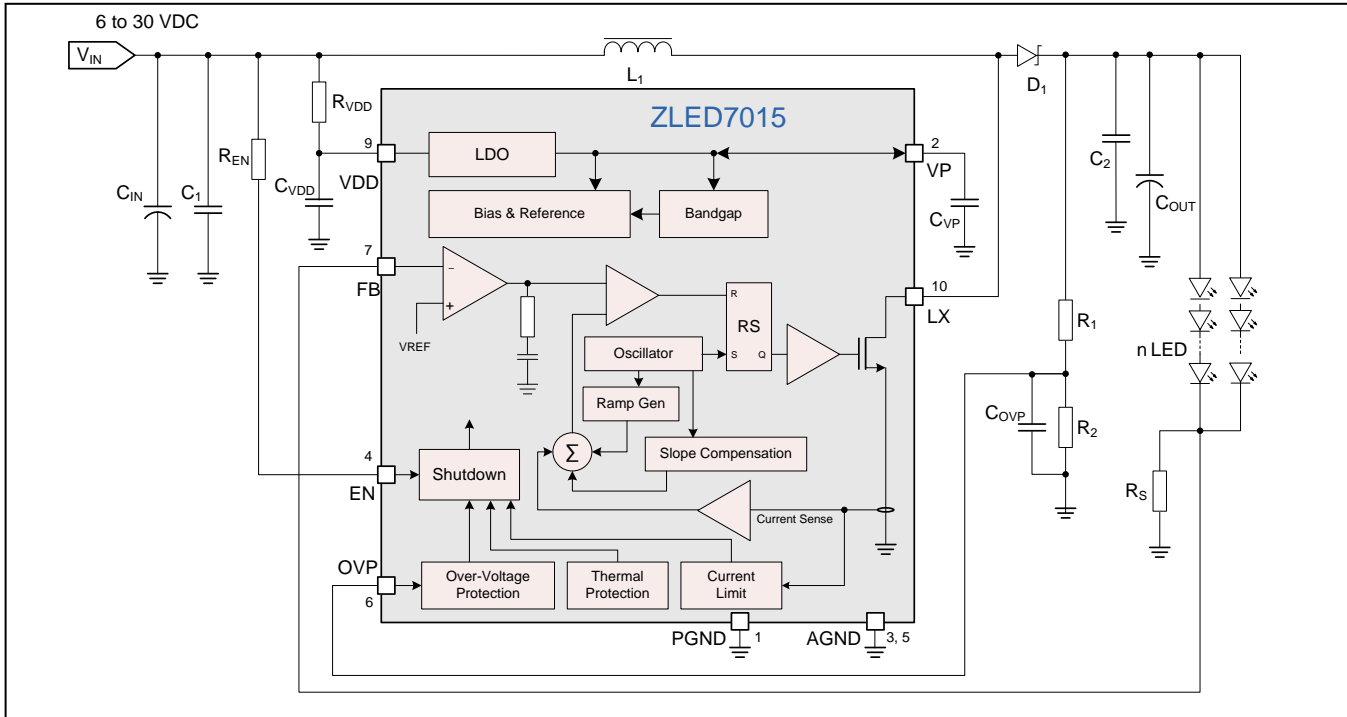
Physical Characteristics

- Operating temperature: -40°C to 85°C
- RoHS-compliant

ZLED7015 Typical Application Circuit



ZLED7015 Block Diagram



Typical Applications

- ❖ Low-Voltage Retro-fit Lighting
- ❖ MR16 Lights
- ❖ SELV Lighting
- ❖ Signage and Outdoor Lighting
- ❖ Architectural/Building Lighting
- ❖ Replacement Tubes
- ❖ LED Backlighting
- ❖ General Purpose Low-Voltage Industrial and Consumer Applications

Ordering Information

Product Sales Code	Description	Package
ZLED7015ZI1R	ZLED7015 – 1.0MHz Boost Converter with Internal 35V Switch	MSOP-10 (Tape & Reel)
ZLED7015KIT-E1	ZLED7015-E1 Evaluation Board, 1 ZLED-PCB10, and 5 ZLED7015 ICs	Kit

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