



# XR46110 Product Brief

## LED Current Controller with Line Regulation Compensation

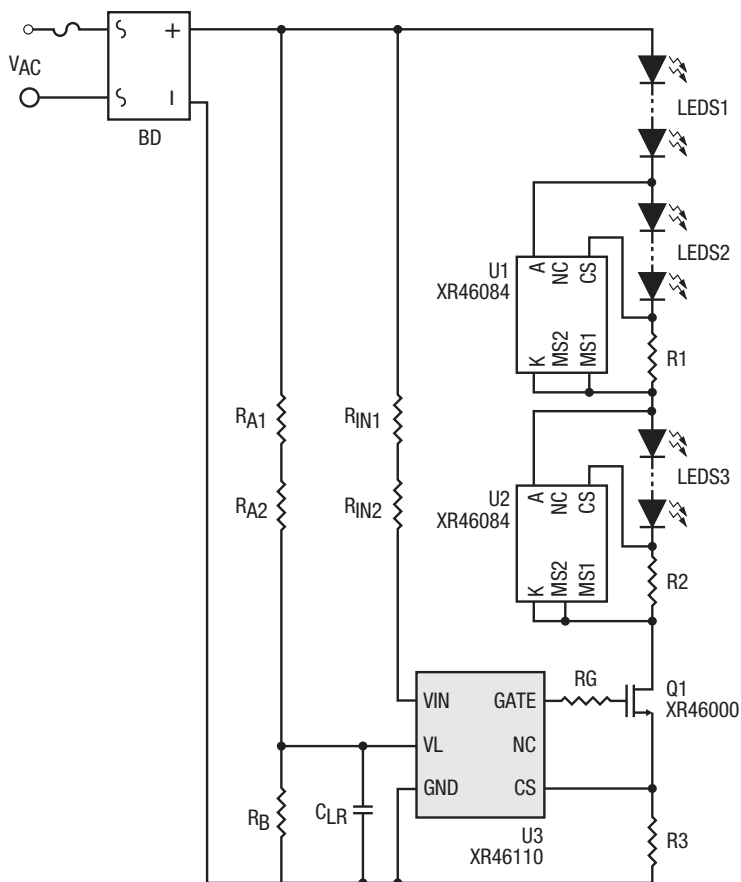
### Description

The XR46110 is an LED current controller with line regulation compensation for operating over a wide alternative current (AC) voltage source range. It can drive an external N-channel power MOSFET to regulate the current flowing through a high voltage (HV) LED string.

The application of the XR46110 is configured in series with an LED string, working as a constant current sink with linear type overvoltage protection (OVP), linear type over temperature protection (OTP), and line regulation compensation. It is suitable for applications with a rectified AC voltage source.

The PCB design can be very compact to meet various shape requirements. It is especially suitable for replacing incandescent light bulb and linear type fluorescent lamps.

### Typical Application



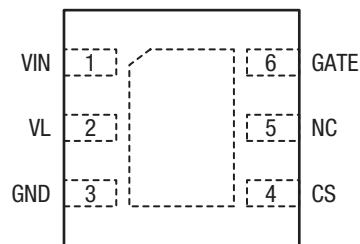
### FEATURES

- Device
  - 6V to 78V chip supply voltage range
  - Excellent system power regulation in  $\pm 10\%$  AC mains fluctuation
  - Over temperature protection
  - Overvoltage protection
  - Single board LED lighting solution available
  - 2mm x 2mm TDFN-6L package
- System
  - All solid state components
  - No electrolytic capacitor required
  - Scalable architecture allows optimization of performance vs. cost
  - Driver-on-board and chip-on-board design solution available which minimize process flow and assembly cost
  - High PF and low THD performance
  - Flexible PCB layout options

### APPLICATIONS

- LED Lighting Applications
  - Downlight
  - High bay
  - Specialty
  - Architectural

### Pin Configuration



2mm x 2mm TDFN-6

## Ordering Information<sup>(1)</sup>

Part Number	Operating Temperature Range	Lead-Free	Package	Packaging Method
XR46110IHBTR	-40°C ≤ T <sub>J</sub> ≤ 125°C	Yes <sup>(2)</sup>	TDFN6 2x2	Tape and reel

**NOTE:**

1. Refer to [www.exar.com/XR46110](http://www.exar.com/XR46110) for most up-to-date Ordering Information.
2. Visit [www.exar.com](http://www.exar.com) for additional information on Environmental Rating.

Please contact [LEDtechsupport@exar.com](mailto:LEDtechsupport@exar.com) to request a complete datasheet.



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

48720 Kato Road  
Fremont, CA 94538  
USA

Tel.: +1 (510) 668-7000  
Fax: +1 (510) 668-7001  
Email: [LEDtechsupport@exar.com](mailto:LEDtechsupport@exar.com)

Exar Corporation reserves the right to make changes to the products contained in this publication in order to improve design, performance or reliability. Exar Corporation conveys no license under any patent or other right and makes no representation that the circuits are free of patent infringement. While the information in this publication has been carefully checked, no responsibility, however, is assumed for inaccuracies.

Exar Corporation does not recommend the use of any of its products in life support applications where the failure or malfunction of the product can reasonably be expected to cause failure of the life support system or to significantly affect its safety or effectiveness. Products are not authorized for use in such applications unless Exar Corporation receives, in writing, assurances to its satisfaction that: (a) the risk of injury or damage has been minimized; (b) the user assumes all such risks; (c) potential liability of Exar Corporation is adequately protected under the circumstances.

Reproduction, in part or whole, without the prior written consent of Exar Corporation is prohibited. Exar, XR and the XR logo are registered trademarks of Exar Corporation. All other trademarks are the property of their respective owners.