C2000™ MCU LED Lighting Guide

Enabling industry-leading energy efficiency, adaptive intelligence and remote connectivity, C2000 Piccolo™ MCUs are lighting the way for the future of LED illumination designs.

Energy efficiency

With a track-record of delivering efficient and feature-rich digital power solutions, C2000 Piccolo microcontrollers are finely tuned to drive higher efficiencies in LED lighting designs, meaning greater savings on customers' energy bills and differentiation of lighting products in an energy-conscious world.

Intelligence

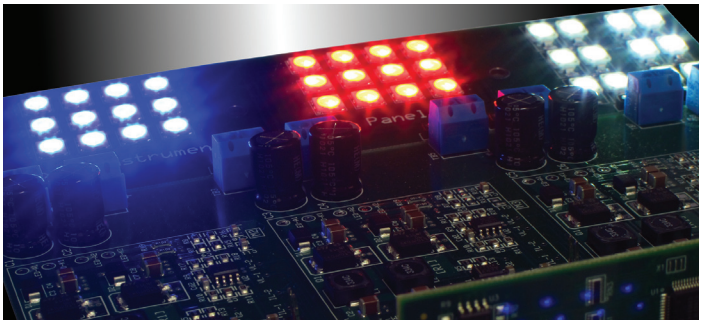
Looking for intelligence in your lighting product without the added cost of external components? C2000 Piccolo microcontrollers have you covered. With peripherals such as USB, I^2C, SPI, CAP and UART, Piccolo digital control enables advanced functionality such as temperature monitoring, fault detection, light output tuning, proximity sensing and more. With the availability of integrated timers, capabilities such as dimming schedulers and advanced lighting control can easily be added.

Connectivity

C2000 lighting solutions provide the connectivity and remote control the market demands, without the cost of an external communications module. Piccolo microcontrollers enable advanced communications standards such as power line communications (PLC), DALI, DMX512, KNX and RF.

Applications

The Piccolo lighting kits are ideal for a range of applications including outdoor, architectural, entertainment, commercial, industrial, and automotive.

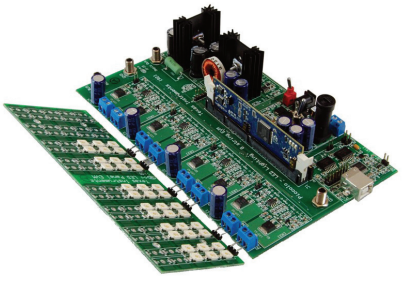


C2000 MCU lighting advantage

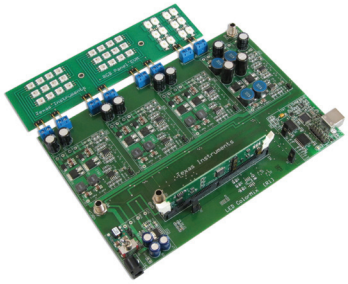
- **Portfolio of Piccolo MCUs** enable a range of lighting designs from simple, offline lighting designs to remote-connectivity-enabled adaptive designs
- **Digital power software libraries** provide the building blocks for efficient digital power supply design
- **Lighting control and communications** software examples and user guides walk developers through the software and hardware implementations of LED lighting control and communications
- **Hardware reference designs** provide various example lighting implementations from DC/DC designs to AC/DC plus communications

controlSUITE™ software

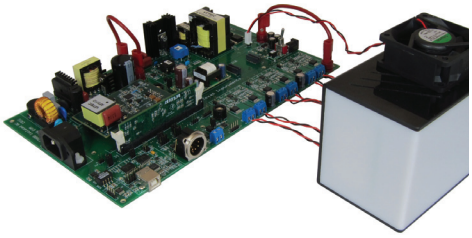
For C2000 development kit software and information, download controlSUITE at **www.ti.com/controlSUITE**



▲ *Single rail, multi-string, DC/DC boost*



▲ *Multi-rail, multi-string, DC/DC boost*

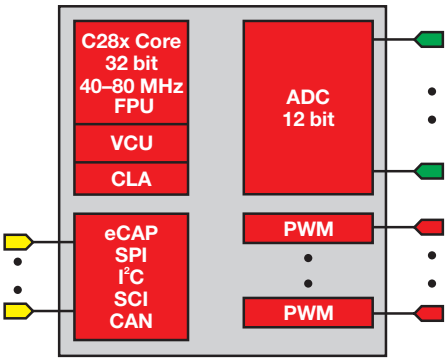


▲ *Single-rail, multi-string, AC/DC PFC, comms*

Part number	AC/DC	DC/DC	Lighting	Communications
TMDSDCDCLEDKIT	None	Sepic buck/boost	Multi-string , common rail, PWM dimming	None
TMDSRGBLEDKIT	None	Boost and sepic buck/boost	Multi-string, multi-rail, PWM dimming	None
TMDSIACLEDCOMKIT	UCC28810D-based AC/DC with PFC	Resonant LLC	Multi-string, common rail, PWM dimming	PLC, DALI, DMX, KNX*, RF*

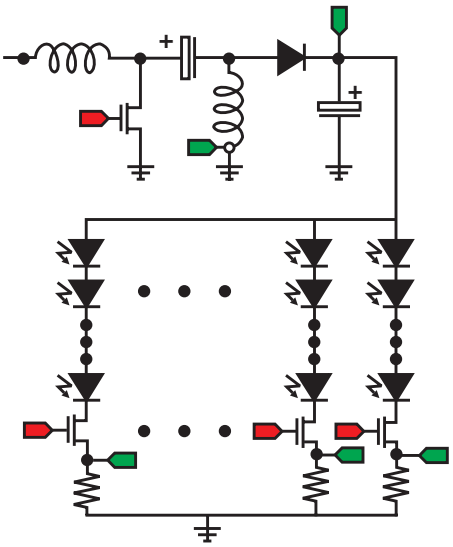
**KNX and RF software support not included.*

Piccolo™ MCU



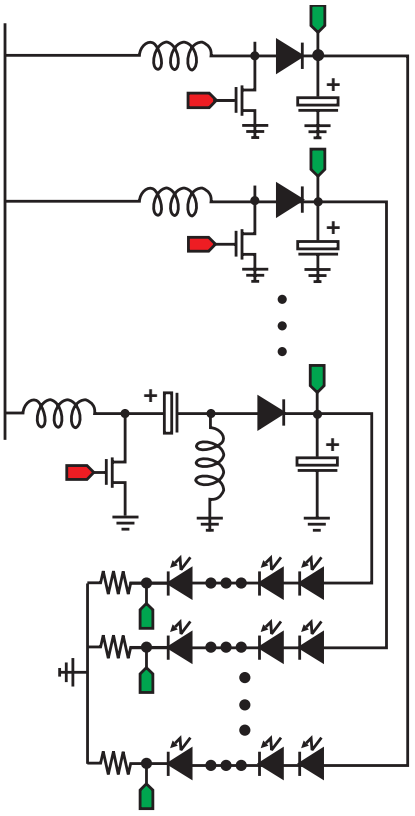
For more information about C2000 Piccolo MCUs, please visit **www.ti.com/c2000**

DC/DC Single Rail, Multi-String



TMDSDCDCLEDKIT

DC/DC Multi-Rail, Multi-String

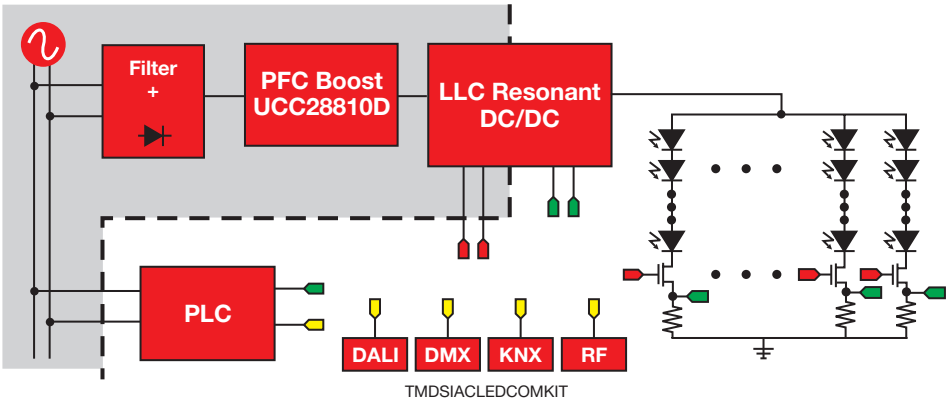


TMDSRGBLEDKIT

C2000™ MCU Developer Kit

For more information or to order an LED Lighting developer kit, please visit **www.ti.com/c2000tools**

Isolated AC/DC PFC, Single Rail, Multi-String and Communications



TMDSIACLEDCOMKIT

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