

Multichannel Standalone LED Driver

Advance Product Information - Jun 19, 2020

E522.88



Features

- Wide Supply voltage operating range of 5V up to 36V
- 16 channels @100mA allowing bundling to increase LED current
- High LED driver current resolution (selection step size of 100μA)
- LED group control by up to four discrete signals
- Internal memory for dynamic signaling and animations
- 10 bit internal PWM for high brightness resolution
- Individual LED channel bin class brightness correction
- Onboard NVM to store individual channel current configurations
- Internal temperature sensor for power management
- Power dissipation sharing using external resistor
- Offers LED open and short diagnosis using 10bit ADC
- Automatic supply, temperature dependent LED current derating
- Optional: Single lamp mode behavior

Applications

- Automotive interior and exterior lighting systems
- Basic standalone LED light dynamic animations
- General LED Applications

General Description

The E522.88 is a multi-channel PWM LED driver for standalone light applications. It provides 16 current sinks with integrated 10bit PWM generator for each channel. Each of the drivers can digitally be configured to drive up to 100mA with a selectable slew rate.

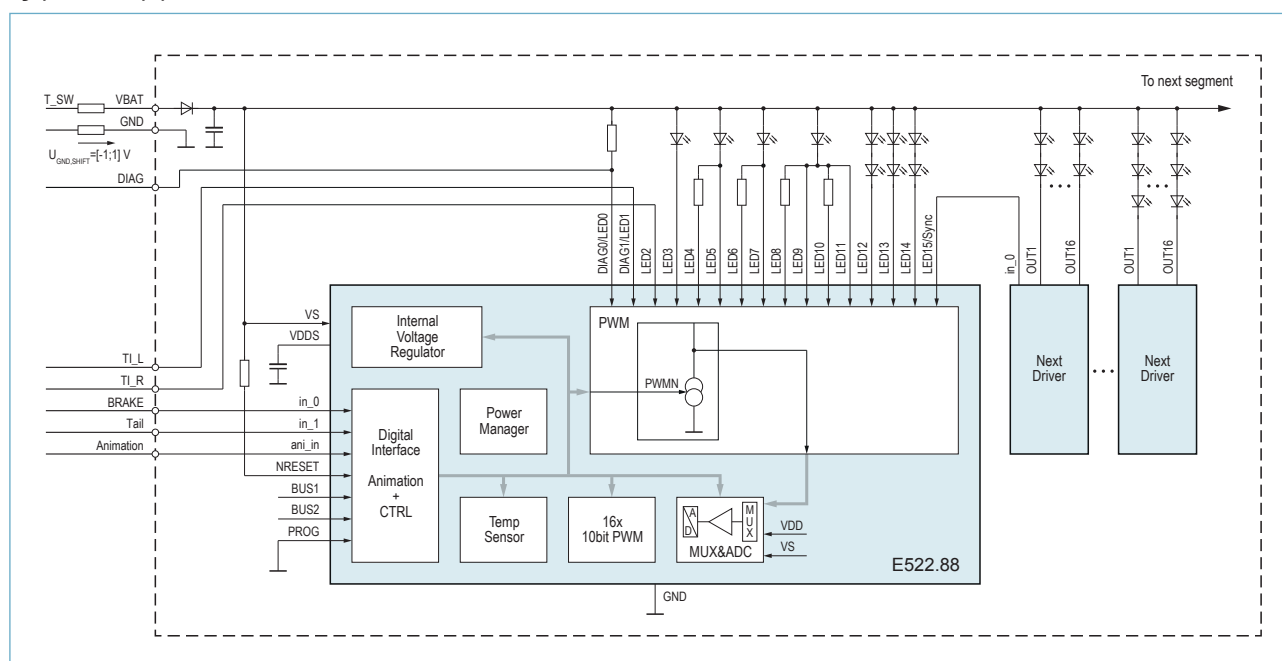
The device supports up to four LED groups that can be directly controlled by external control signals and can work as a bulb replacement without microcontroller. Current and PWM values can be stored in an internal NVM. Additionally, the device supports basic scenarios to allow light animation sequences. An advanced device power management feature allows LED channel bundling with automatic current balancing to external resistors resulting in reduced device power dissipation. Various diagnostic features, like LED open and short condition detection and temperature sensor, are provided to meet automotive requirements.

To protect the device from thermal damage, the device implements a configurable LED supply and device temperature dependent automatic LED current derating.

Ordering Information

Ordering-No.:	Temp. Range	Package
E52288A77B	-40°C to +125°C	QFN32L6

Typical Application Circuit



Elmos Support

Headquarters

Elmos Semiconductor AG
Heinrich-Hertz-Str. 1
44227 Dortmund (Germany)
Phone: +49 (0) 231 / 75 49-100
Fax: +49 (0) 231 / 75 49-149
sales-germany@elmos.com
www.elmos.com

Sales and Application Support Office North America

Elmos NA, Inc.
sales-usa@elmos.com

Sales and Application Support Office China

Elmos Semiconductor Technology (Shanghai) Co., Ltd.
sales-china@elmos.com

Sales and Application Support Office Korea

Elmos Korea
sales-korea@elmos.com

Sales and Application Support Office Japan

Elmos Japan K.K.
sales-japan@elmos.com

Sales and Application Support Office Singapore

Elmos Semiconductor Singapore Pte Ltd.
sales-singapore@elmos.com

Note: Elmos Semiconductor AG (below Elmos) reserves the right to make changes to the product contained in this publication without notice. Elmos assumes no responsibility for the use of any circuits described herein, conveys no licence 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 checked, no responsibility, however, is assumed for inaccuracies. Elmos 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 a life-support system or to significantly affect its safety or effectiveness. Products are not authorized for use in such applications.

Copyright © 2020 Elmos Reproduction, in part or whole, without the prior written consent of Elmos, is prohibited.