Triple 55mA Linear LED Controller

E522.90/91/92/93

Product Preview - Feb 23, 2016

RoHS compliant

Features

- Three independent high-side Current Sources (3*55mA)
- Redundant Outputs for each Channel
- Parallel Operation for up to 165mA
- Low Power Standby / Sleep Mode
- Thermal Management Option per Channel
- Operating Input Voltage Range 5V to 25V, max. 40V
- External Reference Voltage / Derating Supported
- PWM Dimming (All channels or separate Channels)
- Diagnostic Functionalities (LED Driver Open/Short, IR Config Open/Short, Junction Temperature, Supply Voltage)
- Diagnostic Bus to link ICs
- Selectable "Failure Feedback Mode" or "Single Lamp Behaviour"
- Drop-In Functional compatibility to E522.80
- AEC-Q100 Qualification

Applications

- Automotive LED Lighting, Rear Lighting
- Turn Indicator Driver
- OLED Lighting Driver
- Medium Current Interior Lighting
- Industrial LED Applications or RGB Drivers

Ordering Information

Ordering-No.:	$Temp_{Amb}$ Range	Package
E52290A97D	-40°C to +125°C	SOIC16N-EP
E52291A97D	-40°C to +125°C	SOIC16N-EP
E52292A97D	-40°C to +125°C	SOIC16N-EP
E52293A97D	-40°C to +125°C	SOIC16N-EP

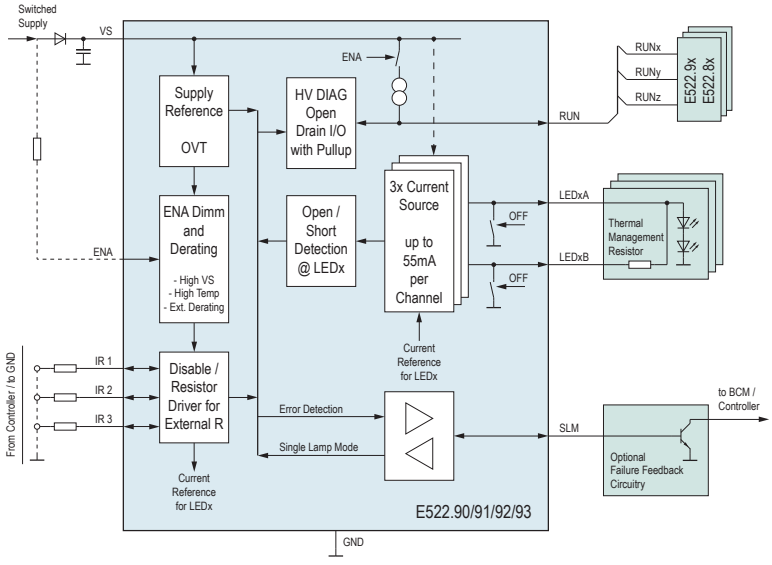
General Description

E522.90/91/92/93 family features independent triple linear high-side current sources for LED driving. Diagnostic features are provided to meet automotive requirements, together with a communication interface "RUN" to link ICs fault handling. Individual current configuration and independent digital PWM dimming per channel are available (e.g. for RGB). Full functional compatibility with higher current versions E522.80-83 allows drop-in replacement and thus simplest adaption of existing solutions in current range.

Two external configurable modes of operation allow
- either "Failure Feedback Mode" FFM (operating channels in case of errors, with error signalization)
- or in "Single Lamp Mode" (turning all linked E522.9x´s channels "off" in case of errors)

An intelligent power management system is provided using an external shunt resistor to share power distribution between E522.9x and external heat sink. Hotspot generation can be avoided by flexible heat spreading. Internal derating for reference voltage and over-temperature shut-down for extreme temperatures >180°C protect E522.9x in case of abnormal operation conditions.
A high voltage capable input ENA can be used to either digitally enable or disable E522.9x. Furthermore, ENA may be used as analog reference voltage input.

Typical Application Circuit



This document contains information on a product under development. Elmos Semiconductor AG reserves the right to change or discontinue this product without notice.

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