

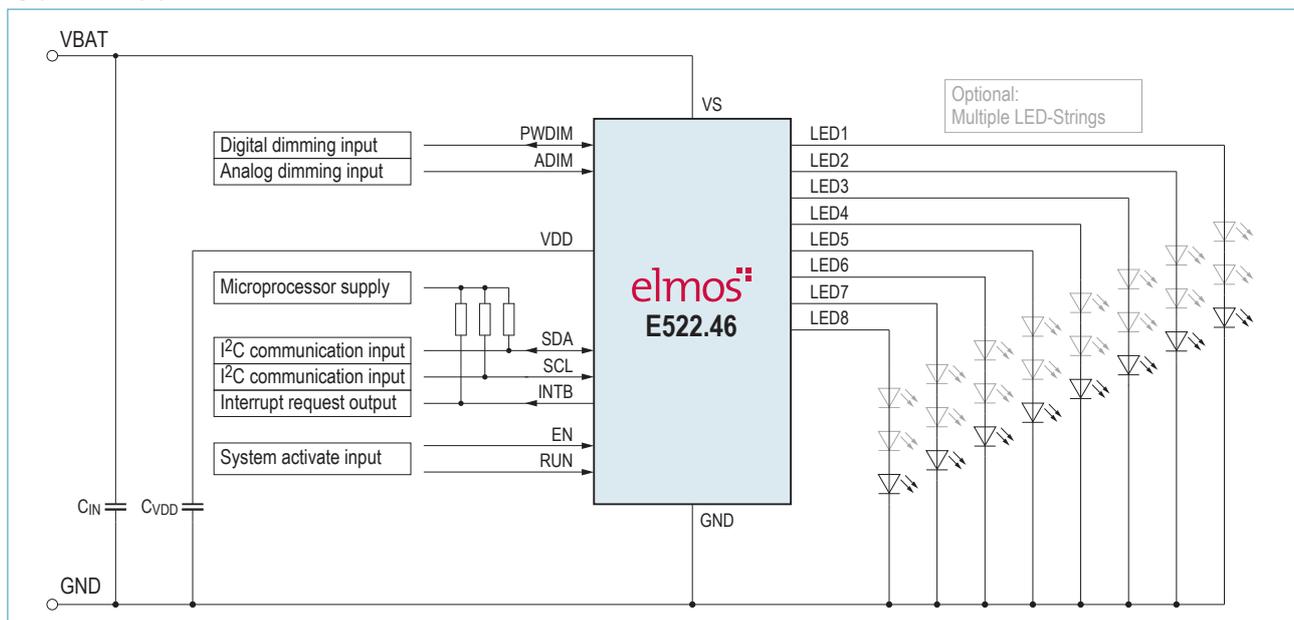
### Features

- Input voltage range 3.3V to 32V (max. 42V)
- 8-channel I<sup>2</sup>C programmable Linear LED Driver
- Parallel output operation for up to 200mA
- 8Bit adjustable LED master current 1mA to 26.5mA
- 8Bit PWM based LED luminous intensity level for LED binning calibration
- All LED operating adjustment data and system configurations storable in E<sup>2</sup>PROM memory
- Global PWM and configurable Analog Dimming
- Adjustable thermal management by chip-temperature based derating of LED currents
- Diagnostic functionalities:
  - OV/UV input voltage monitoring
  - Readable Temperature and LED Forward Voltages
  - Open/Short Load with Single-Short Detection
- I<sup>2</sup>C interface assigned to:
  - LED parameter settings in E<sup>2</sup>PROM/Registers
  - Diagnosis feedback
- Operating temperature range -40°C to +105°C
- Full automotive qualification AEC-Q100

### Applications

- Automotive LED lighting, rear or stop Light
- Multi-channel panel applications
- Low current interior lighting
- Turn indicator driver
- Industrial LED applications or RGB drivers

### Typical Application Circuit



### General Description

E522.46 provides eight linear high side current sources for LED driving. Binning information for each individual LED as well as various system configurations are stored in internal E<sup>2</sup>PROM memory. The luminous intensity level of each LED is adjusted by a common analog master current and an individual PWM duty cycle, considering the stored binning information. Supporting noise sensitive applications, external PWM clocks can be applied up to 24kHz repetition rate.

Due to the synchronizable master-slave characteristic and adjustable error handling with a common INTB error bus the E522.46 is also designed to drive cluster applications and a higher number of LED channels. For system setup and diagnostics an I<sup>2</sup>C interface is used. An internal power management system including a current source shut-off above  $T_j = +165^\circ\text{C}$  guarantees an appropriate power dissipation of the system

### Ordering Information

Ordering-No.:	Temp Range	Package
E52246A84C	-40°C to +105°C	DFN18L5040

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