

Sigma Delta Scale® principle for optical sensors

- Very high robustness against ambient influences such as sun light, aging and dirt
- Compensating of aging and temperature effects

Features

- Front end optical rain sensor signal processor
- Four input channels for ambient light measurements
- High sensitivity, no total reflection needed
- Very high robustness against ambient influences like sun light, aging and dirt
- Two embedded LED drivers, driving up to 40mA
- Provides a rain drop signal via the WS pin
- SPI interface
- Integrated temperature sensor
- Extensive diagnosis during operation
- Low bill of materials due to few external components
- AEC-Q100 qualification

Ordering Information

Ordering-No.:	Temp Range	Package
E52704A52C	-40°C to +105°C	QFN20L4

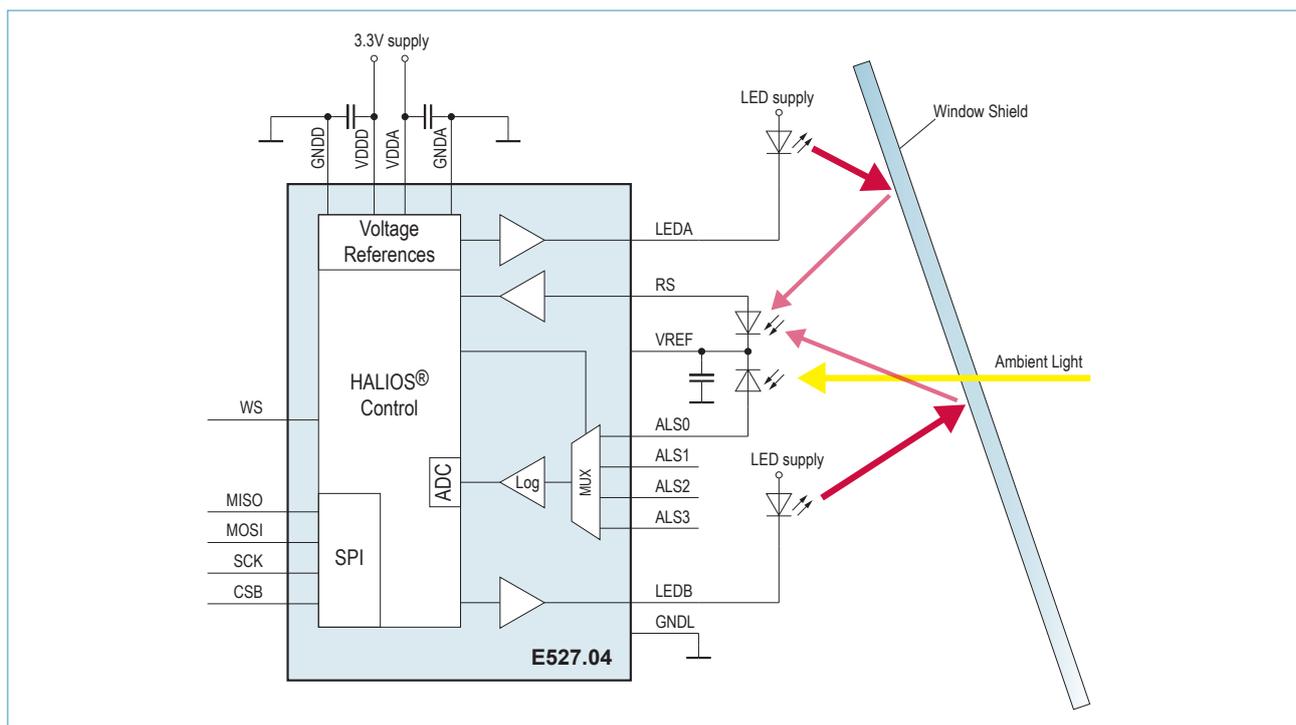
General Description

The RLT IC (Rain Light Tunnel Sensor) is intended for controlling an optical sensor unit in automotive wiping systems or in industrial camera and window systems. It provides two embedded slew rate controlled LED drivers with up to 40mA current for stimuli generation. A special, high-sensitive receiver allows processing of a diode input signal without total reflection of the send signal, allowing reliable detection of rain and water drops. Due to the used HALIOS-SD (Sigma Delta) measurement method a very high robustness against ambient influences like sun light, any kind of flickering light, aging and dirt is provided. The device has four additional input channels for ambient light measurements. Communication is provided using a 3- or 4-wire SPI interface for fast and flexible communication.

Applications

- Optical rain sensing to control automotive wiping systems or industrial camera and window systems
- Ambient light measurements to control
 - Headlights / lights
 - Head-up displays
 - Air conditioning

Typical Application Circuit



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