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NCV76124

Rain and Light Sensor Interface with SPI

Product Overview

For complete documentation, see the data sheet.

The NCV76124 is an interface chip for rain and light detection in automotive applications. It measures external photodiode currents that represent rain and light signals, and transfers the converted signals to a master microcontroller on request via the SPI interface. The rain measurement data can be used to control the rain wipers. The light intensity signals can be used for e.g. brightness control of displays, the headlamp control and others. Thanks to the SPI programmability, one single hardware configuration can support various applications.

Features

- Periodic Measurement of 4 (optionally 5) Light Sensor Signals and of 2 (optionally 1) Rain Sensor Signals with Environmental Light Cancellation Circuitry
- Programmable Gain Trans Impedance Amplifiers for signal measurement
- Watchdog functionality and diagnostic circuitry compliant to ASIL-B
- Configurable Rain Pulse Current Amplitude, Timing and Repetition Rate
- Standby and Sleep Modes with Low Current Consumption
- AEC-Q100 Qualified and PPAP Capable
- Device Temperature Measurement

Benefits

- High Versatility, low Microcontroller Code Complexity
- Support High Dynamic Range for Optics
- Enable ASIL-B compliant module design
- Minimize Power Consumption for the desired Rain Signal Excitation

Applications

- Rain sensor for wipers
- Ambient light sensor
- Front lighting
- Head-up display

End Products

- Rain-sensitive wipers
- Automated headlight

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	Sensor Type	Supply Voltage (V)	ASIL Level	Output Type	Package Type
NCV76124MW0R2G	1.92	A P Pb H	Active	Wheatstone Bridge	3.3	Safety Design	SPI	QFNW-24

Application Diagram