Product Document

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Proximity Detection Sensors

www.ams.com/TSL2672

TSL2672 – Proximity Detection Sensor Family

- Proximity offset register compensates for optical crosstalk
- Capable of operation in up to 60k lux sunlight
- Ideal for use behind spectrally distorting materials in short distant detection applications

We provide innovative analog solutions to the most challenging applications in sensor and sensor interfaces, power management, and wireless.

General Description

The TSL2672 family of devices provides proximity detection, when coupled with an external IR LED, and enables accurate proximity detection while operating in diverse lighting conditions and through a variety of attenuating materials. The TSL2672 proximity detection has improved signal-to-noise performance and includes an offset register that allows compensation for optical system crosstalk between the IR LED and the sensor. To prevent false proximity data measurement readings, a proximity saturation indicator bit signals that the internal analog circuitry has reached saturation. An internal state machine allows the device to enter a low-power mode between ALS and proximity detection measurements to minimize average power consumption.

The programmable gain and integration time enable a wide dynamic range of operation for short distance detection, such as in a mobile phones, or for longer distance applications, such as notebook and tablet user presence detection.

Applications

- Touchscreen control
- Notebook and Monitor Security
- Optical switch
- Printer paper alignment and detection
- Industrial process control

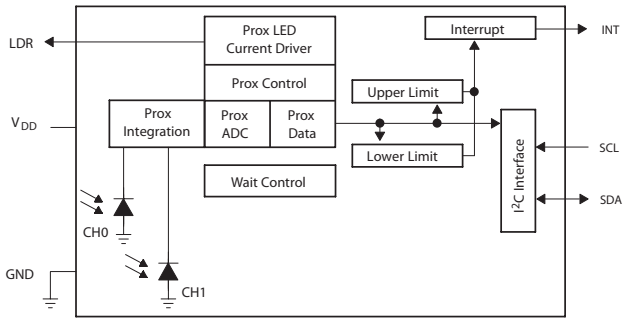
Features

- Proximity Detection
  - programmable analog gain, integration time, offset
  - current sink driver for external IR LED
  - saturation indicator
- Programmable interrupt with persistence filter
- Power Management
  - low power 2.2 µA sleep-state
  - 90 µA wait-state with programmable wait time
- I²C fast-mode compatible interface
  - 400 kbits/s data rate
  - V_{DD} or 1.8-V Bus interface
- Small 2 x 2 mm Dual Flat No-Lead (FN) Package

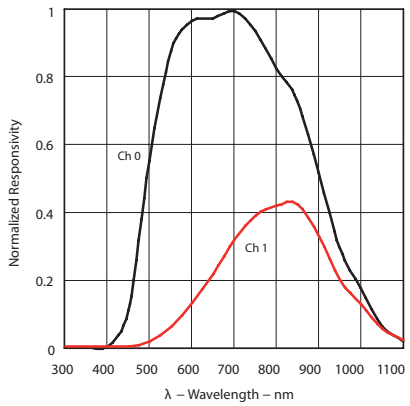
Device	Package	I²C Interface		Ordering Number
		Address[1]	Bus Voltage	
TSL26721	FN-6	0X39	V_{DD}	TSL26721FN
TSL26723	FN-6	0X39	1.8V	TSL26723FN

[1] Alternate address option available

Functional Block Diagram



Spectral Responsivity



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