

APDS-9300

Miniature Ambient Light Photo Sensor with Digital (I²C) Output



Data Sheet

Description

The APDS-9300 is a low-voltage Digital Ambient Light Photo Sensor that converts light intensity to digital signal output capable of direct I²C interface. Each device consists of one broadband photodiode (visible plus infrared) and one infrared photodiode. Two integrating ADCs convert the photodiode currents to a digital output that represents the irradiance measured on each channel. This digital output can be input to a microprocessor where illuminance (ambient light level) in lux is derived using an empirical formula to approximate the human-eye response.

Application Support Information

The Application Engineering Group is available to assist you with the application design associated with APDS-9300 ambient light photo sensor module. You can contact them through your local sales representatives for additional details.

Features

- Approximate the human-eye response
- Precise Illuminance measurement under diverse lighting conditions
- Programmable Interrupt Function with User-Defined Upper and Lower Threshold Settings
- 16-Bit Digital Output with I²C Fast-Mode at 400 kHz
- Programmable Analog Gain and Integration Time
- Miniature ChipLED Package
 - Height - 0.55mm
 - Length - 2.60mm
 - Width - 2.20mm
- 50/60-Hz Lighting Ripple Rejection
- Low 2.5-V Input Voltage and 1.8-V Digital Output
- Low Active Power (0.6 mW Typical) with Power Down Mode
- RoHS Compliant

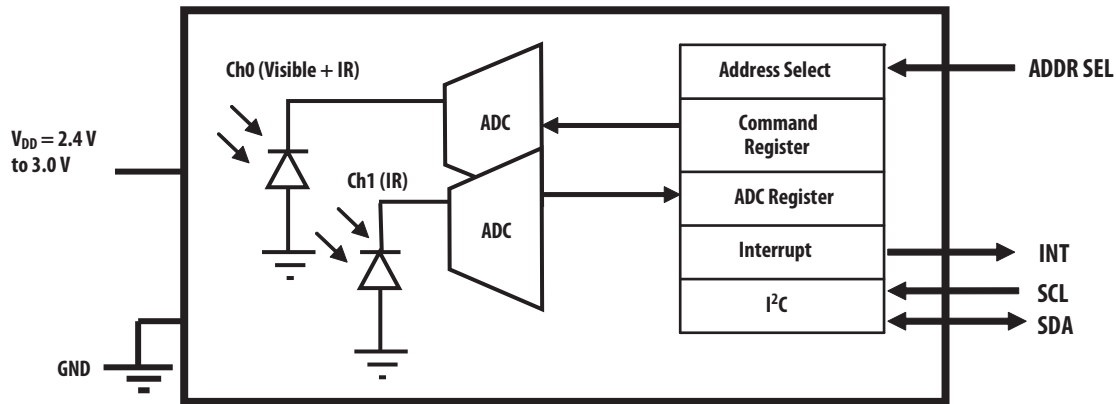
Applications

- Detection of ambient light to control display backlighting
 - o Mobile devices – Cell phones, PDAs, PMP
 - o Computing devices – Notebooks, Tablet PC, Keyboard
 - o Consumer devices – LCD Monitor, Flat-panel TVs, Video Cameras, Digital Still Camera
- Automatic Residential and Commercial Lighting Management
- Automotive instrumentation clusters.
- Electronic Signs and Signals

Ordering Information

Part Number	Packaging Type	Package	Quantity
APDS-9300-020	Tape and Reel	6-pins Chipld package	2500

Functional Block Diagram



I/O Pins Configuration Table

Pin	Symbol	Description
1	V_{DD}	Voltage Supply
2	GND	Ground
3	ADDR SEL	Address Select
4	SCL	Serial Clock
5	SDA	Serial Data
6	INT	Interrupt