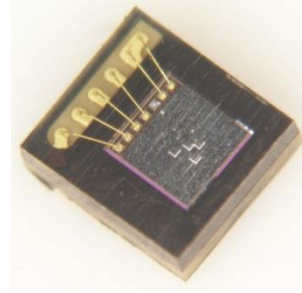


Description

The ZOPT2202 Sensor integrates two types of ultra-violet optical sensors: one that is primarily sensitive in the UVA spectral range and one that is sensitive in the UVB spectral range.

The device is connected via an I²C interface to a microcontroller. Other I²C or SMBus devices can be connected to the same interface. The device has a programmable interrupt with hysteresis to respond to events and reduce the microcontroller tasks.

A major application of the device is in smart phones or other mobile devices to enable UVA and UVB energy level measurements in support of diverse health care applications or contextual awareness algorithms.



Features

- Very high sensitivity for UVA and UVB energy levels
- Superior visible light and infrared energy suppression
- Very stable spectral response over angle of light incidence
- Large dynamic range
- Excellent temperature compensation
- Lowest conversion repeat noise
- Parallel operation of UVA and UVB sensor
- I²C interface capable of standard mode (100kHz) or fast mode (400kHz) communication; 1.8V logic compatible
- Programmable interrupt function for UVA or UVB sensor with upper and lower thresholds

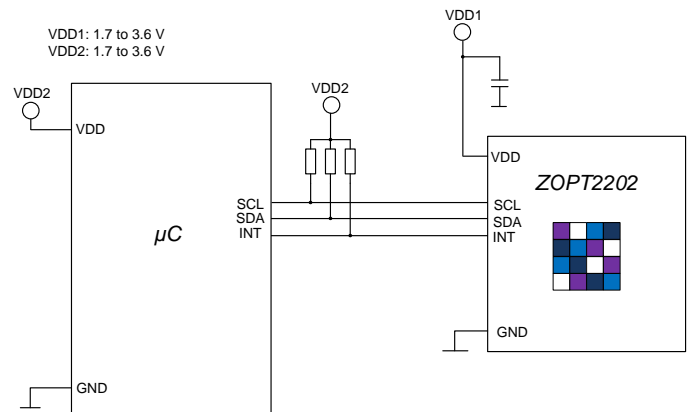
Sensor Features

- UVA/UVB sensor in a matrix array arrangement
- Configurable output resolution: 13 to 20 bits
- Configurable analog gain: ×1 to ×18
- Linear output code
- Fluorescent light flicker immunity

Physical Characteristics

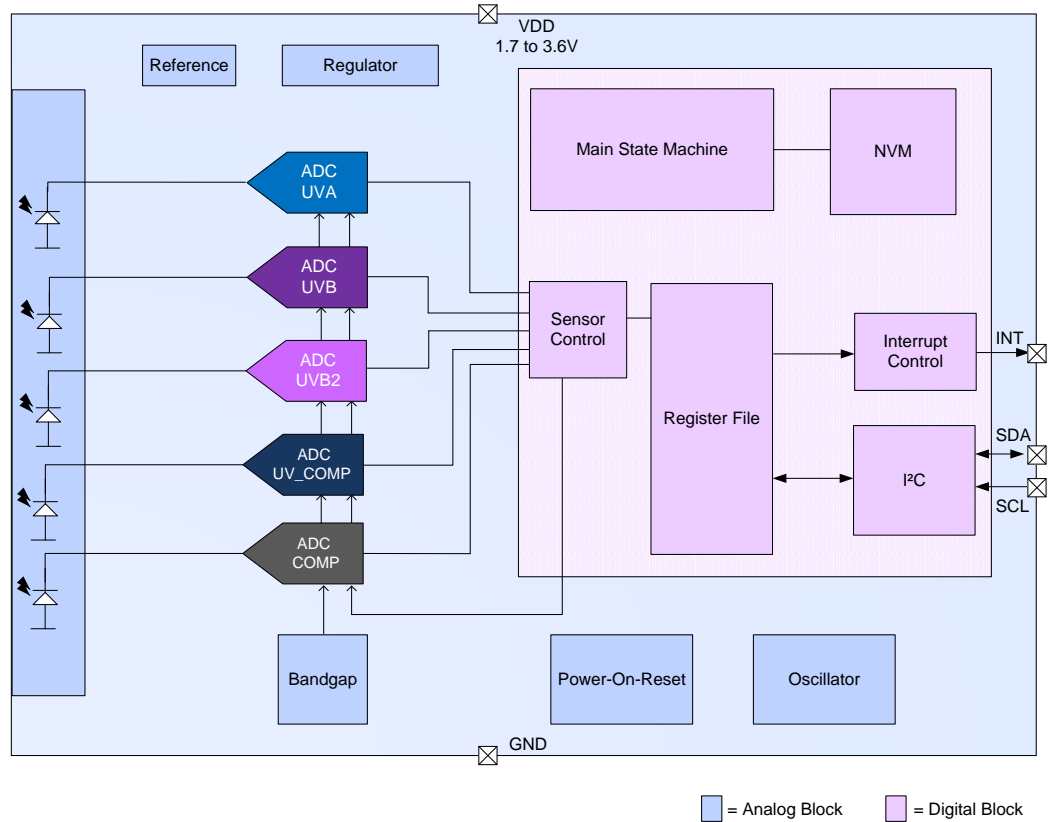
- Wide operation temperature: - 40°C to +90°C
- Wide supply voltage: 1.7V to 3.6V
- Minimum active current at maximum duty cycle:
 - Single channel: 110µA typical
 - Dual channel: 130µA typical
 Note: Average current is proportionally lower with lower measurement rates.
- Low standby current: 1µA typical
- Packages:
 - LGA6 (2.0 × 2.2 × 0.7 mm)
 - TSV (1.1 × 1.2 × 0.26 mm)

ZOPT2202 Application Circuit



ZOPT2202 Block Diagram

- Applications**
- Cellular phones
 - Notebooks
 - Consumer devices



Ordering Information

Product Sales Code	Description	Package
ZOPT2202AC5R	ZOPT2202 LGA6 – Temperature range: -40 to +90°C	Reel
ZOPT2202AC9R	ZOPT2202 TSV – Temperature range: -40 to +90°C	Reel
ZOPT2202KIT V1.0	ZOPT2202 Evaluation Kit, including ZOPT Control Board, mini-USB cable, and 1 ZOPT2202 sample mounted on the LGA6 Sensor Board; kit software is available for free download – see the <i>ZOPT Evaluation Kit Quick Start-up Guide</i> included in the kit for instructions.	

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