Ambient Light Sensor with I2C digital interface

Preliminary

Wide Lux Detecting Range and Full IR Rejection

General Description

The ASR8601 is an ambient light (ALS) sensor with wide lux detecting range and full IR rejection. It features an I2C digital output and provides innovative algorithms which can be friendly in application.

ASR8601 ALS sensing offers ASC (Auto Scale Control) mode other than traditional manual mode. With ASC mode, ASR8601 can automatically adjust the sensing time and gain value to the best resolution according to the various light intensity. User just simply needs to read the measured light data in accuracy without any other setting. The ASC output data is in dynamic range of 16 bits with 12 bits resolution. And under high intensity mode sensing (AI_H mode), the sensing intensity range can be up to 120K lux.
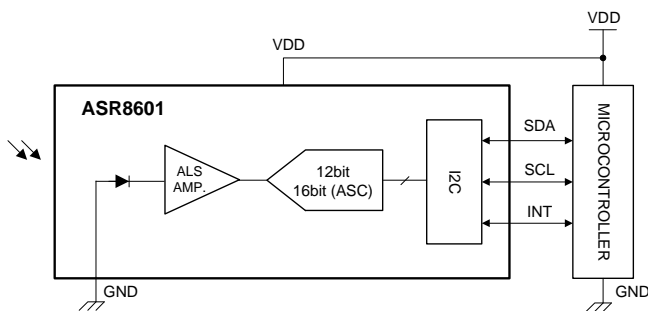
Applications

- Surveillance camera
- Notebook / Monitor
- Smart phone (touch screen disable and backlight control)
- LCD display (backlight control)
- Table PC
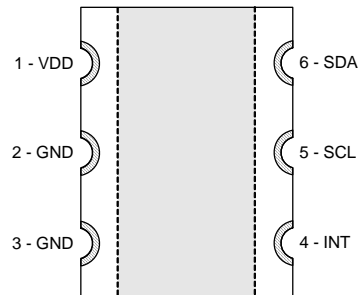- PDA
- Industrial sensor

Features

- Ambient Light (ALS)
  - ALS closes to human-eye response
  - Full IR rejection
  - Wide lux detecting range up to 120K lux
  - 12 bits resolution with gain and integration time setting
  - ASC model with 16 bits dynamic range
  - Programmable high/low threshold interrupt
- User trimming is capable for overlay correction
- I2C digital Interface up to 400KHz with Interrupt Pin
- Wait-time range from 0 to 7 seconds to save power
- 50/60Hz flicker noise rejection
- VDD = 2.5V to 3.6V
- Temperature compensation : -40°C to +85°C
- Low Power consumption I_{ALS}~25uA
- Package option
  - 6-pin OCDFN (2mm x 2.5mm x 1.1mm)
  - All Pb-free (Lead-free) Products are RoHS2.0 Compliant

Brief Block Diagram

Pin Assignment

1	VDD Power	4	Interrupt
2	Ground	5	I2C Clock
3	Ground	6	I2C Data

Ordering Information

Part Number	Temp. Range	Package & Size	Packing	Lead-Free/RoHS
ASR8601-N	-40°C ~ +85°C	6pin OCDFN (2mm x 2.5mm x 1.1mm)	Tape and Reel (3,000/reel)	Compliant

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