

Light-to-Digital Output Sensor with High Sensitivity, Gain Selection, Interrupt Function and I²C Interface

The ISL29003 is an integrated light sensors with a 16-bit integrating type ADC, I²C user programmable lux range select for optimized counts/lux, and I²C multi-function control and monitoring capabilities. The internal ADC provides 16-bit resolution while rejecting 50Hz and 60Hz flicker caused by artificial light sources.

In normal operation, power consumption is less than 300μA. Furthermore, an available software power-down mode controlled via the I²C interface reduces power consumption to less than 1μA.

The ISL29003 supports a hardware interrupt that remains asserted low until the host clears it through I²C interface.

Designed to operate on supplies from 2.5V to 3.3V, the ISL29003 is specified for operation over the -40°C to +85°C ambient temperature range.

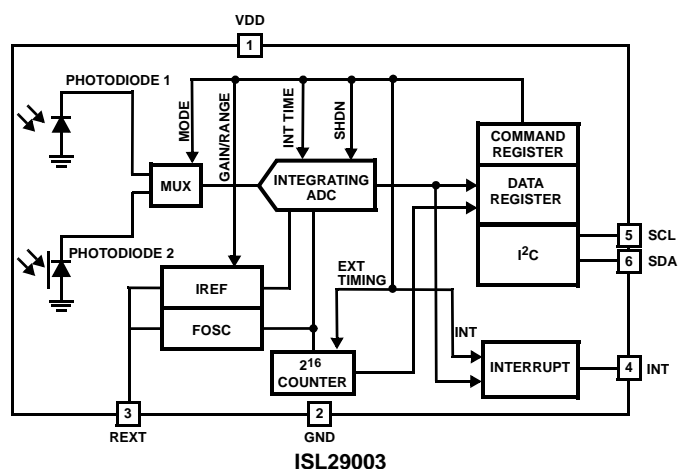
Features

- Range select via I²C
 - Range 1 = 0 lux to 1000 lux
 - Range 2 = 0 lux to 4000 lux
 - Range 3 = 0 lux to 16,000 lux
 - Range 4 = 0 lux to 64,000 lux
- Human eye response (540nm peak sensitivity)
- Temperature compensated
- 16-bit resolution
- Adjustable resolution: up to 65 counts per lux
- User-programmable upper and lower threshold interrupt
- Simple output code, directly proportional to lux
- IR + UV rejection
- 50Hz/60Hz rejection
- 2.5V to 3.3V supply
- 6 Ld ODFN (2.1mmx2mm)
- Pb-free (RoHS compliant)

Applications

- Ambient light sensing
- Backlight control
- Temperature control systems
- Contrast control
- Camera light meters
- Lighting controls

Block Diagram



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