

Digital Red, Green and Blue Color Light Sensor with IR Blocking Filter

ISL29125

The ISL29125 is a low power, high sensitivity, RED, GREEN, and BLUE color light sensor (RGB) with an I²C (SMBus compatible) interface. Its state-of-the-art photodiode array provides an accurate RGB spectral response and excellent light source to light source variation (LS2LS). The ISL29125 is designed to reject IR in light sources allowing the device to operate in environments from sunlight to dark rooms. The integrating ADC rejects 50Hz and 60Hz flicker caused by artificial light sources. A selectable range allows the user to optimize sensitivity suitable for the specific application. In normal operation mode the device consumes 56µA which reduces to 0.5µA in power down mode. The ISL29125 supports hardware and software user programmable interrupt thresholds. The Interrupt persistency feature reduces false trigger notification. The device operates on supplies (VDD) from 2.25V to 3.63V, I²C supply from 1.7V to 3.63V, and operating temperature over the -40°C to +85°C.

Features

- 56µA operating current, 0.5µA shutdown current
- Selectable range (Via I²C)
- I²C (SMBus compatible) output
- ADC resolution 16 bits
- Programmable interrupt windows
- Two optical sensitivity ranges
 - Range 0 = 5.7m lux to 375 lux
 - Range 1 = 0.152 lux to 10,000 lux
- Operating power supply 2.25 to 3.63V
- I²C power supply 1.7V to 3.63V
- 6 Ld ODFN (1.65x1.65x0.7mm) package

Applications

- Smart phone, PDA, GPS, tablet PCs, LCD-TVs, digital picture frames, digital cameras
- Dynamic display color balancing
- Printer color enhancement
- Industrial/commercial LED lighting color management
- Ambient light color detection/correction
- OLED display aging compensation

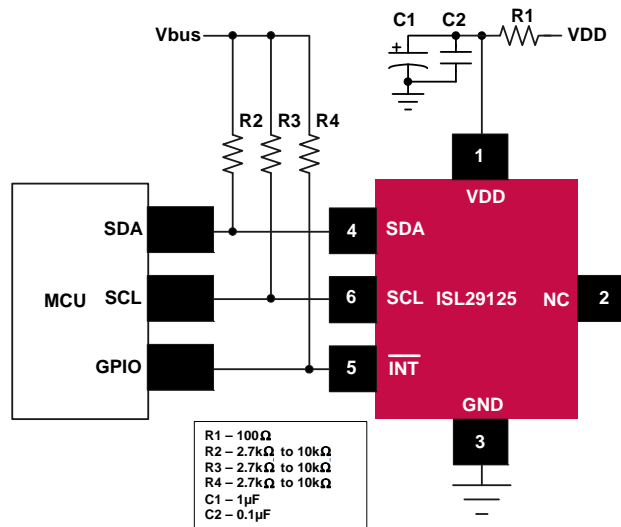


FIGURE 1. TYPICAL APPLICATION DIAGRAM

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