

# APDS-9960 RGB Gesture Sensor Module



The APDS-9960 is an ambient light sensor with integrated ALS, infrared LED and proximity detectors and ambient brightness sensing (ALS, Ambient Light Sensing). It uses a dual photodiode to approximate 0.01 lux illumination to approximate the visual response of the human eye. Programmable interrupt function with upper and lower thresholds, up to 16-bit resolution for high flexibility even after dark glass, proximity sensor fully calibrated for 100 mm object detection, eliminating terminal and sub-components Factory calibration requirements. The ambient light dynamic range has also increased from the previous 10K lux to 30K lux, and the solar calibration has been greatly increased to 50K lux, which greatly improves the sensitivity and avoids strong light interference. It can work accurately under the large 1.0mm Air Gap without external isolation processing, which greatly facilitates the customer's structural design. Its wait state power consumption - 90 $\mu$ A typical, sleep mode power - 2.2 $\mu$ A typical, more energy efficient; up to 400kHz (I2C fast mode) dedicated interrupt pin, I2C interface compatible, fully integrated solution, convenient structure and circuit design , that can bring users a better design experience and product value!

Built-in APDS-9960 sensor for ambient light and color measurement, proximity detection and non-contact gesture detection. With this RGB and gesture sensor, you can control a computer, a microcontroller, a robot, and it's much more powerful than your hand with a simple swipe! In fact, the gesture sensor APDS-9960 was used in the Samsung Galaxy S5.

It can be applied to ambient light and RGB color sensing, proximity detection, and gesture detection.

With four infrared sensors, you can measure the light reflectance of each basic position over time and convert those changes into gestures. Our interface library can detect directional gestures (left to right, right to left, top to bottom, bottom to top), but theoretically more complex gestures such as zigzag, clockwise or counterclockwise, near To the far distance is achievable.

## Specifications

- Working voltage: 2.4V-3.6V
- Measuring range: 4-8in (10-20CM)
- Interface type: I2C interface

## Pin Description

- INT : interrupt output
- SCL: I2C clock port
- SDA: I2C data port
- VCC: power supply positive input port, connect 2.4V-3.6V voltage (3.3V recommended)
- GND: power supply negative input
- VL: External IR LED power supply. Must be 3.0 - 4.5V