PRODUCT DATASHEET

Color and Gesture Sensor APDS-9960 Breakout

333002

The APDS-9960 breakout sensor offers gesture recognition, proximity sensing, and RGB color detection for interactive and smart projects.

Full product documentation, files and tutorials: **solde.red/333002**

CORE ATTRIBUTES

SKU	333002
WEIGHT	7 g
DIMENSIONS	38.1 × 22.0 × 5.0 mm
BARCODE	732388678204

DESCRIPTION

The **Color and Gesture Sensor APDS-9960 breakout** is a compact and powerful module designed for multiple sensing capabilities. It enables gesture recognition, allowing it to detect movements such as up, down, left, and right. In addition to gestures, it features proximity sensing, accurately measuring the distance of objects within a range of 10 to 20 cm. This makes it ideal for interactive applications and touchless control systems.

Create awesome user inputs with the APDS-9960, the all-in-one sensor that detects gestures, proximity, ambient light, and RGB colors. It's a way to build smarter, more interactive projects. Whether you're designing a hands-free user interface, a robot that can sense its surroundings, or a display that automatically adjusts to ambient light, the APDS-9960 provides the multi-faceted sensing capabilities you need.

This sensor, famously used in smartphones like the Samsung Galaxy S5, combines four sensing functions into a single compact module. The gesture detection allows you to recognize directional movements (up, down, left, right), while the proximity sensor can detect objects up to 20cm away. The integrated ambient light and RGB color sensor can measure the intensity and color of light, making it perfect for applications like automatic screen brightness adjustment or color sorting robots. With built-in UV and IR filters, you can be sure that your readings are accurate and free from interference.

What makes this breakout special is its seamless integration into our Qwiic ecosystem, allowing for quick connections with all your boards. As with all our products, it's open-source, with all design files available for you to modify and adapt, plus our 2-year warranty and technical support.

TECHNICAL DETAILS

- **Voltage:** 3.3V
- **Voltage I2C:** 3.3V

- **Connectors:** 2x qwiic
- **Connectors:** 2x qwiic
- **Dimensions:** 38 × 22 mm / 1.5 × 0.9 inch

SPECIFICATIONS

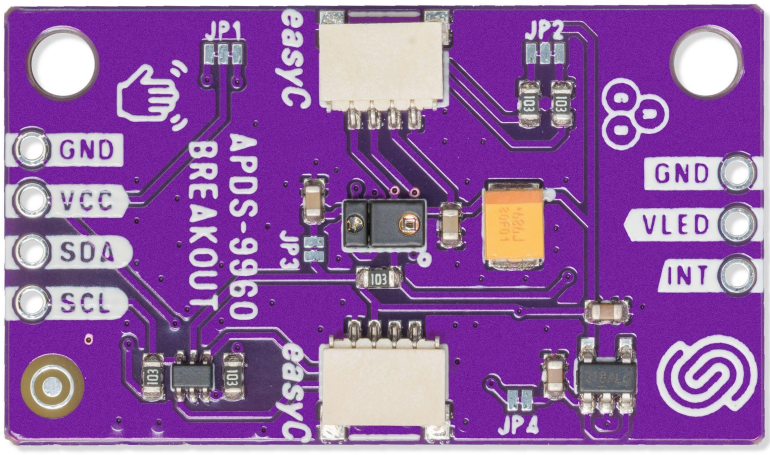
INTERFACE	I2C
QWIIC COMPATIBLE	Yes
I2C ADDRESS DEFAULT	0x39
I2C ADDRESS CHANGEABLE	No
BREADBOARD COMPATIBLE	Yes
MEASUREMENT TYPES	Light, Color, Proximity, Gesture
MEASUREMENT RANGE	Proximity/gesture detection: 10-20 cm
IC PART NUMBER	APDS-9960
SUPPLY VOLTAGE MIN V	3.3
SUPPLY VOLTAGE MAX V	5
LOGIC LEVEL	3V3 Or 5V
OPERATING CURRENT (MA)	100 mA
SLEEP CURRENT UA	1

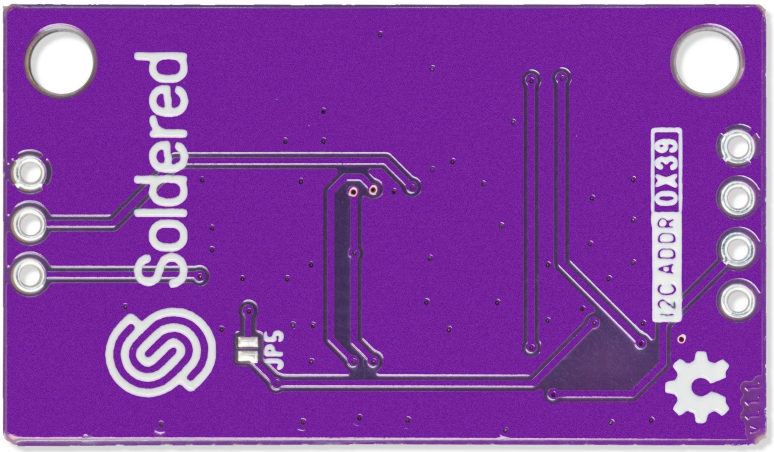
LINKS

Arduino Library	https://github.com/SolderedElectronics/Soldered-APDS9960-Light-Gesture-Color-Sensor-Arduino-Library
Open Source Hardware Files	https://github.com/SolderedElectronics/Color---gesture-sensor-APDS-9960-breakout-hardware-design
Full Documentation	https://docs.soldered.com/apds-9960/overview/
Arduino: Get Started	https://docs.soldered.com/apds-9960/arduino/geting-started/
Hardware Details	https://docs.soldered.com/apds-9960/hardware/
Arduino Library Documentation	https://docs.soldered.com/apds-9960/arduino/Initialization/
mim_package	https://checkmim.com/packages/solderedelectronics+Soldered-APDS9960-MicroPython-Library
MicroPython Module	https://github.com/SolderedElectronics/Soldered-APDS9960-MicroPython-Library
Pinout	https://cms.soldered.com/products/333002/media/333002_pinout-png_a300da.svg

GALLERY

GND
VLED
INT
easyC
APDS-9960
BREAKOUT
GND
VCC
SDA
SCL
easyC


JP1
easyC
JP2
GND
VCC
SDA
SCL
APDS-9960
BREAKOUT
JP3
GND
VLED
INT
easyC
JP4


Soldered
I2C ADDR 0X39
JP5