

Qwiic dToF Imager - TMF8821

SEN-19037

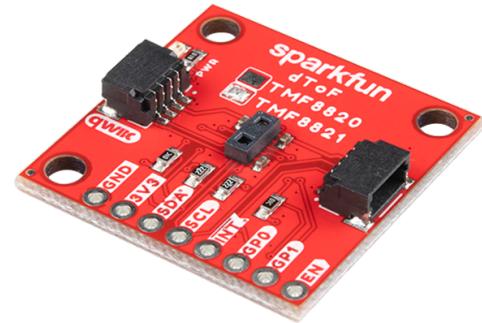
Product Overview

09/19/2022

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

SparkFun Qwiic dToF - TMF8821 Imager is a direct Time-of-Flight (dToF) sensor that includes a single modular package with an associated Vertical Cavity Surface Emitting Laser (VCSEL) from AMS. This dToF device is based on Single Photon Avalanche Photodiode (SPAD), Time-to-Digital Converter (TDC), and histogram technology to achieve a 5000mm detection range. The Qwiic dToF - TMF8821 includes a lens on the SPAD and supports 3x3, 4x4, and 3x6 multi-zone output data and a wide, dynamically adjustable field of view.



The Qwiic dToF - TMF8821 offers two configurable GPIO pins and one enable (EN) pin, broken out as PTH pads. This dToF requires no soldering as all communication is enacted exclusively via I²C. The Qwiic dToF - TMF8821 is ideal for projects such as distance measurement for camera autofocus, presence detection, object detection and collision avoidance, and light curtain.

Features

- Operating voltage:
 - 2.7V to 3.6V
 - Typically 3.3V via Qwiic cable
- Current consumption:
 - 8µA (standby)
 - 57mA (active)
- AMS TMF8821 Multi-zone Time-of-Flight sensor:
 - Direct ToF technology with high sensitivity SPAD detection
 - 4x4 configurable multi-zone configuration with multi-object detection
 - Fast Time-to-Digital Converter architecture
 - Sub-nanosecond light pulse
 - On-chip histogram processing
 - High-performance on-chip sunlight rejection filter and algorithm
- 10mm to 5000mm @30Hz measurement range
- Class 1 940nm VCSEL light source
- Field of View adjustable up to 63° diagonally
- Up to 30Hz maximum read rate

Features

- 2x Qwiic connectors
- 0x41 I²C address
- -30°C to 70°C operating temperature range
- Breakout pads:
 - 1x ground
 - 1x power
 - 1x I²C port
 - 1x interrupt
 - 2x GPIO
 - 1x enable
- Power LED (configurable via jumper)
- I²C pull-ups (configurable via jumper)
- 1" x 1" (2.54cm x 2.54cm) board dimensions

Schematic

- [Qwiic dToF - TMF8821 Imager](#)

Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/sparkfun/sparkfun-qwiic-dtof-imager-tmf8821/>