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NEW PRODUCT	DIGILENT A National Instruments Company	*Release Year* 2019	*Released Quarter* Q3
Digilent Part Number 410-392		*Category* Pmods	

OVERVIEW

Product Name: Pmod ToF: Time of Flight Sensor

Product Subtitle: Enables optical distance sensing at low power

Product Description: The Pmod ToF (Time of Flight) is a sensor that enables optical distance sensing at low power. The on-chip digital signal processor on Renesas ISL29501 calculates the time it takes for light emitted by the ToF to travel to the target and back, which is proportional to the distance to the target. The Pmod ToF can measure distances of up to five meters.

It operates using the principle of Square Wave Modulated Indirect Time of Flight (SWM-ITOF) in the frequency domain and obtains distance measurements from the phase shift. The sensing is done by an external emitter (LED) and detector (Photodiode)

Key Search Terms: Renesas ISL29501, Renesas, Time of Fligh, Digital Signal Processing, Photodiode, Optical distance sensing, Pmods, Sensor, FPGA	***Video Link:*** N/A

Datasheet: https://reference.digilentinc.com/reference/pmod/pmodtof/reference-manual?_ga=2.220202202.394830674.1572313199-146479034.1564685370

Demo / Project Links:

FPGA:

- Adding a Hierarchical Block to a Vivado IPI Design
  - This guide walks through the process of adding support for the Pmod ToF Library to an existing Vivado project targeting any FPGA board with a Pmod connector.
- Pmod ToF Hierarchical Block Library
- Zybo Z7-20 Pmod ToF Demo User Guide

Features

- Renesas ISL29501
- Optimized low-power modes
- Enables proximity detection and distance measurement
- 16-bit resolution
- Onboard EEPROM to save the calibrations
- 6-pin Pmod connector with I²C interface
- Pass-through Pmod host port for daisy chaining

Target Applications

- Mobile consumer applications
- Industrial proximity sensing
- Power management
- Home automation

Product Image

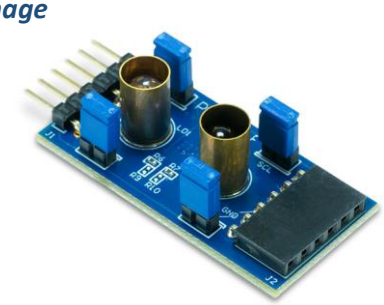


Image Links:

- https://flic.kr/p/2hDHcjE (Oblique)
- https://flic.kr/p/2hDDnji (Top)
- https://flic.kr/p/2hDGa5v (Bottom)

Related Products

- All Digilent FPGA boards