

VGA Time of Flight 3D camera

MLX75027

The MLX75027 time-of-flight (ToF) sensor supports up to VGA resolution. The sensor, alongside the BSI VGA pixel array, provides the control signals for the illumination unit (e.g. VCSELs) and has a MIPI CSI-2 high speed serial interface to stream data to the host processor. The sensor enables the design of very compact 3D cameras.

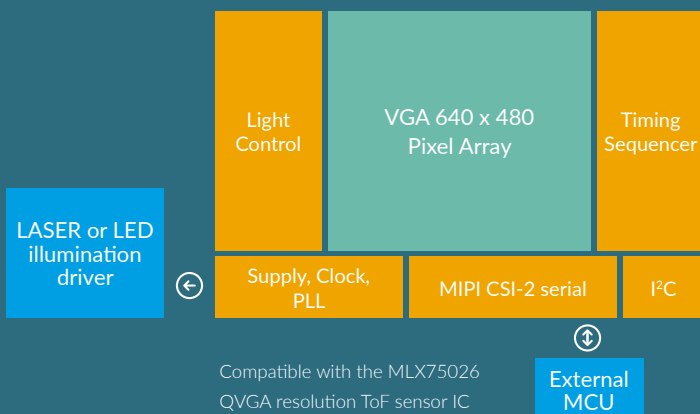


Key features

- 1/2" optical VGA (640 x 480) ToF image sensor
- High distance accuracy because of programmable modulating frequencies up to 100MHz
- Full resolution readout up to 120 distance frames per second (in 4 phase configuration)
- 1.5ms phase readout time
- Up to 8 raw phases (or quads) per frame
- Per-phase statistics & diagnostics
- Continuous or triggered operation mode(s)
- Configurable over I²C (up to 400kHz)
- CSI-2 serial data output, MIPI D-PHY, 1 clock lane, 2 or 4 data lanes
- Built-in temperature sensor
- Region of interest (ROI) selection
- Integrated support for binning (2x2, 4x4, 8x8)
- Horizontal mirror & vertical flip image modes
- Ambient operating temperature range
 - -40 +105°C (automotive)
 - -20 +85°C (industrial)
- Packages RoHS compliant (141 pins)
 - iBGA (TI) 11 mm x 9.5 mm

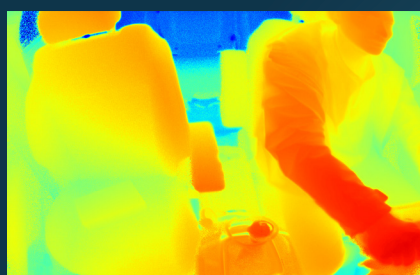


Block diagram



Evaluation kit

A complete kit is available to evaluate the MLX75027 VGA ToF sensor.



Applications

- Driver monitoring (DMS)
- In-Cabin monitoring (ICM)
- Car exterior cocooning
- Robotics
- Autonomous transport (AGVs)
- People and object detection in industry, retail, logistics and smart cities



www.melexis.com/MLX75027

