

# Product Information

## Linear Optical Array

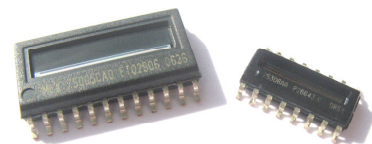
### MLX90255BA

The MLX90255BA linear sensor array consists of a 128x1 array of photodiodes, associated charge amplifier circuitry and a pixel data-hold function that provides simultaneous-integration start and stop times for all pixels. Operation is simplified by internal control logic that requires only a serial-input (SI) signal and a clock.

Light energy falling on a photodiode generates photocurrent, which is integrated by the active integration circuitry associated with that pixel. The amount of charge accumulated at each pixel is directly proportional to the light intensity and the integration time. The output and reset of the integrators is controlled by a 132-bit shift register and reset logic. An output cycle is initiated by clocking in a logic 1 on SI.

## Features

- 128 x 1 Sensor-Element Organization (1 Not Connected, 1 dummy, 128 real, 1 dummy and 1 Dark Pixel)
- 385 Dots-Per-Inch (DPI) Sensor Pitch
- High Linearity and Uniformity for 256 Gray-Scale (8-Bit) Applications
- High Sensitivity:  
2.0V @ 10 $\mu$ W/cm<sup>2</sup> @ 0.7ms integration time for open cavity devices  
1.7V @ 10 $\mu$ W/cm<sup>2</sup> @ 0.7ms integration time for glass lid devices
- Special Gain Compensation for use with single LED light source
- Output Referenced to Ground
- Low Image Lag
- Single 5V Supply
- Replacement for Texas Instruments TSL1301 & TSL1401 and MLX90255AA
- Operation to 1MHz
- Available in automotive cavity packages SOIC24 and GLP5



Bus ICs

BLDC Motor  
Control ICs

Pressure Sensors

Wireless ICs

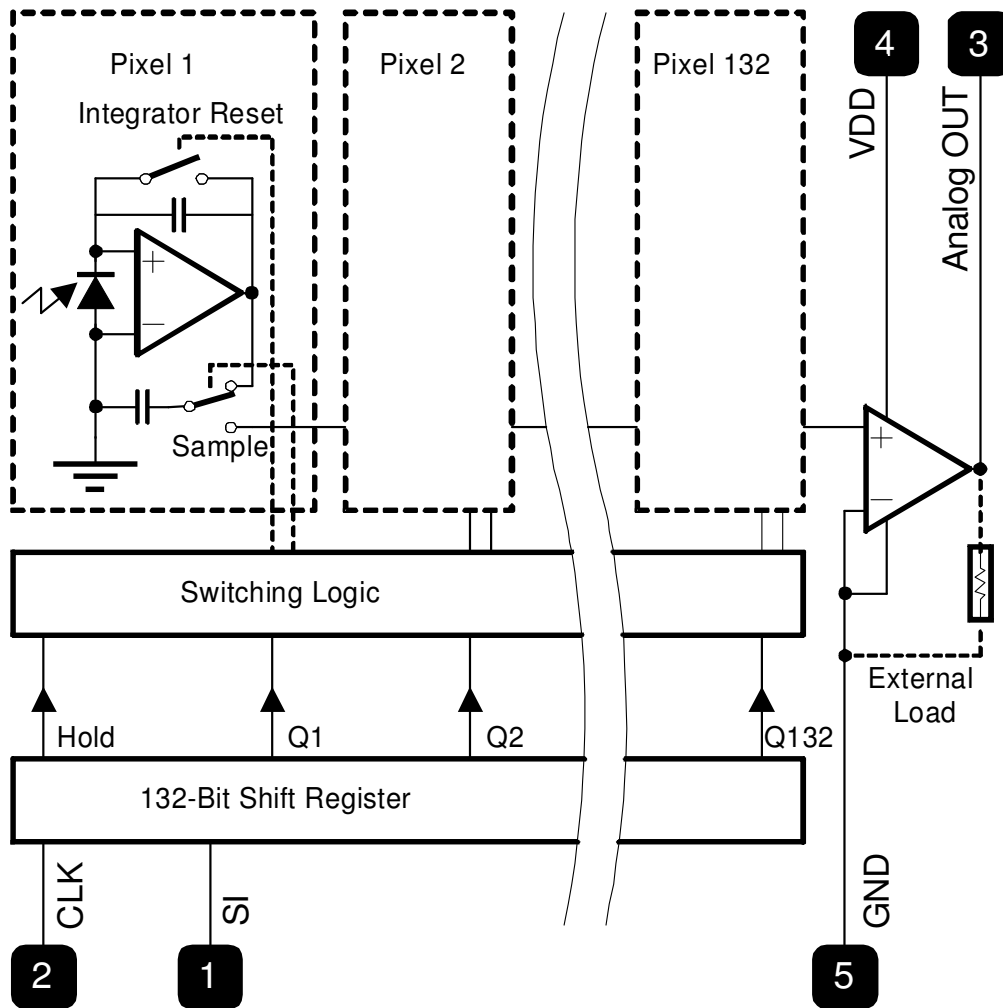
Hall Effect ICs  
And Sensors

Optoelectronic  
Sensors

Sensor Interface ICs

Infrared Sensors

## Block Diagram



## Applications

- Position Sensing
- Spectrometer Applications
- Optical High Resolution Position Sensing (8 to 14 bit)
- High Resolution Steering Systems: Position and Angle
- Electrical Power Assisted Steering
- Spectrometer Analysis

For additional information email [info@melexis.com](mailto:info@melexis.com)  
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