

1. DESCRIPTION

MT3101 is an infrared light to digital converter with a built-in 940nm VCSEL diode and I²C interfaces. This device provides infrared light sensing to allow proximity estimation featured with interrupt function.

MT3101 incorporates a photodiode, timing controller and ADC. The spectral response of MT3101 is optimized for infrared light whose wavelength is 940nm. MT3101 employs a noise cancellation scheme to highly reject unwanted ambient noise. The proximity engine features a wide range of offset adjustment to compensate for unwanted IR energy reflection at the sensor.

MT3101 is designed to meet the Class 1 laser safety limits including single faults in compliance with IEC/ EN 60825-1: 2014 and IEC/ EN 60825-1: 2007.

2. FEATURES

- Fully digital control with I²C interface
- Supports Fast mode (up to 400kHz)
- Supports 3 kinds I²C ID Address
- Built-in temperature compensation circuit and power on reset circuit
- Wide operating temperature range (-20°C to 85°C)
- Built-in VCSEL driver with flexible setting
- VCSEL pulse width and count selection
- VCSEL current: 2mA to 16mA
- Low noise design
- High ambient light suppression
- Up to 12 bits resolution for proximity detection
- Ultra-low power consumption
- Lead-free package (RoHS compliant)

3. APPLICATIONS

- TWS (True Wireless Stereo)
- IoT application
- Tablet PC
- Wearable

4. TYPICAL APPLICATION CIRCUIT

