

Product Overview

NOA2301CUTAG: Digital Proximity Sensor with Interrupt

For complete documentation, see the data sheet.

The NOA2301 combines an advanced digital proximity sensor and LED driver coupled with a tri-mode I2C interface with interrupt capability in an integrated monolithic device. Multiple power management features and very low active sensing power consumption directly address the power requirements of battery operated mobile phones and mobile internet devices.

The proximity sensor measures reflected light intensity with a high degree of precision and excellent ambient light rejection. The NOA2301 enables a proximity sensor system with a 16:1 programmable LED drive current range and a 30 dB overall proximity detection range.

The NOA2301 is ideal for improving the user experience by enhancing the screen interface with the ability to measure distance for near/far detection in real time.

Features

- Proximity Sensor and LED Driver in One Device
- Proximity Detection Distance Threshold I2C Programmable with 12-bit Resolution and Eight Integration Time Ranges (16-bit effective resolution)
- Effective for Measuring Distances up to 200 mm and Beyond
- Excellent IR and Ambient Light Rejection including Sunlight (up to 50K lux) and CFL Interference
- Programmable LED Drive Current from 10 mA to 160 mA in 5 mA Steps, No External Resistor Required
- User Programmable LED Pulse Frequency
- Very Low Power Consumption
 - ◆ Stand-by current 2.8 A (monitoring I2C interface only, Vdd=3V)
 - ◆ Proximity sensing average operational current 100 A
 - ◆ Average LED sink current 75 A
- Programmable interrupt function including independent upper and lower threshold detection or threshold based hysteresis
- Level or Edge Triggered Interrupts
- Proximity persistence feature reduces interrupts by providing hysteresis to filter fast transients such as camera flash

For more features, see the data sheet

Applications

- Senses human presence in terms of distance for saving display power and preventing inadvertent command initiation in applications such as:
 - ◆ Smart phones, mobile internet devices, MP3 players, GPS
 - ◆ Mobile device displays and backlit keypads
 - ◆ Headphone use detection
 - ◆ Cameras
 - ◆ Game controllers, media players
- Contactless Switches
 - ◆ Touch-less switches for light controls
 - ◆ Money detection, coin or paper
 - ◆ Sanitary switches for medical environments

End Products

- Smart phones, mobile internet devices, MP3 players, GPS
- Mobile device displays and backlit keypads
- Cameras
- Game controllers, media players
- contactless switches

For more information please contact your local sales support at www.onsemi.com.

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