

APDS-9900 Digital Environment Brightness Proximity Sensor Module:

APDS-9900 provides digital ambient light and proximity sensors (ALS), infrared LED and a complete proximity detection system in a single 8 pin package. The proximity function can be carried out with a 100 mm plug and play test (without the windshield) and thus reduces the need for a terminal device or sub assembly plant calibration. From the bright sunlight to the dark room, the detection function can be operated well. Wide dynamic range is allowed, such as mobile phone dark glass after a short distance detection operation. In addition, the internal state machine has the ability to position the device in a low power mode between ALS and proximity measurements, providing a very low average power consumption. ALS can react with brightness after extremely low light conditions or dark panels.

APDS-9900 digital ambient light and proximity sensors are particularly useful for display management, which aims to extend battery life and provide the best visibility in different light conditions. Display panel and keyboard backlight accounted for the entire platform power up to 30% to 40%. ALS features are ideal for notebook computers, LCD monitors, flat-panel TVs and mobile phones.

Near ground function is especially suitable for near field applications. In the phone, the proximity detection can be placed in the user when the phone in their ears to detect. When using a cell phone to make a call, the device can quickly provide access to the required high repetition rate. This feature provides improved "green" power saving capability and increased security in order to lock the computer in case the user is not present. In the module, the optical lens can increase the efficiency of the transmission and the infrared energy of the receiver, which can reduce the overall power consumption.

Characteristic

ALS, infrared LED and near joint detector in optical module

Ambient brightness sensor (ALS)

- an approximation of the human eye's visual response
- programmable interrupt function with upper and lower thresholds
- up to 16- bit resolution
- high sensitivity in dark glass after operation
- up to 1000000:1 dynamic range

Proximity detection:

- fully calibrated to 100 mm detection

Integrated infrared LED and synchronous LED driver

- eliminate the close proximity of "factory calibration"
- 2000:1 dynamic range

Programmable wait timer

- wait state power - 70 A typical values

& - programmable range of 2.72 MS to more than 6 seconds

I2C compatible interface

- up to 400 kHz (I2C fast mode)

- dedicated interrupt pin

- 1.8V VBUS I2C interface

Sleep mode power - 2.5 A typical values



