► HALIOS® Micromouse

FEATURES

- Supply voltage range 3.0V to 5.5V
- Programable detection algorithms for many different applications
- 8-Bit microcontroller with 4MHz clockrate
- 4kByte EEPROM
- 192 Byte RAM
- Optical working principle without mechanics
- Operational up to 100klux ambient light
- Low standby current
- Parameter adjustment and functional data read back via SPI
- Configureable inputs and outputs
- –40°C to +85°C operating temperature
- LQFP 48 package

APPLICATION

- Navigation key for mobile phones, laptop computers and handheld devices
- Switches, rotation-sliders, proximity-sensors
- Compact 2-D input device

DESCRIPTION

The IC is an optical sensor which provides a non-mechanical detection of movements. The EEPROM allows a free configuration of the sensor-structure and the detection algorithms.

The sensor measures the optical reflections of an object on a cover above the sensor using a system so called HALIOS® (High Ambient Light Independent Optical System). HALIOS® is high efficient suppressing ambient light and also has an inherent self calibration to eliminate disturbances caused by housing reflections such as scratches.

The infrared emitting diodes (IRED, signal diodes) and the photodiode are placed on a PCB in a required formation. The ability to detect the motion of an object on the surface depends on changes in the optical path of the reflected signal, changing the relative light intensity of LED pairs.

With 4k of EEPROM the customer has enough memory space for even complex applications and an easy to use posibility to protect his know how even in a ASSP.

For automotive, industrial and pc applications a version 909.03 with integrated IR diodes and photodiode is available in an ASIC*plus* package.

BLOCK DIAGRAM