



Opto logger with NFC

Advance Information DELTA-OPTOLOG1

Features

- Customisable number of active pixels
- Pixel size and aspect ratio customizable
- openMSP430 CPU
- 10k samples storage capacity
- Configurable SPI configurable register set-up
- ADC for internal photodiode signals or external signals
- On-chip low noise programmable TIA
- SPI master interface for auxillary slave
- Fully compliant up to ISO 14443A-4 (ISO 15693 option)
- NFC powered optical measurements possible
- 3.3 V single supply operation (functionality down to 2 V)
- Global shutter or rolling shutter functionality

Description

The DELTA Microelectronics Opto Logger with NFC (DELTA-OPTOLOG1) consists of either a line array of photodiodes or a number of separate photodiodes. These can be read using integration as in normal CMOS arrays or can be continuously monitored using TIAs depending on the application.

Optical measurements can be digitised using the ADC and logged in the EEPROM for later read out using NFC. Small electro-optical very low current consumption detection systems can be implemented with this chip or parts of this chip and by using the NFC it can be powered up.

The gains of the different amplifiers are configurable by a SPI interface and the system can be set in different modes e.g. power sample hold mode.

DELTA-OPTOLOG1 is fully compatible with standard low-cost CMOS process. The digital interface is 3.3 V making it easy to combine external lock-in amplifiers, SPI based sensors and external microcontrollers for a variety of applications/demonstrators.

All blocks on this IP have been proven in silicon in standard CMOS 0.18 μm process and can easily be ported to other standard digital process. Using a standard 0.18 μm process it is easy to add digital and/or analog IP.

Application areas

- Production line monitoring
- Toxic environment sensor systems
- Wireless luminance/backlight logger
- Position logging
- Wireless read of logged sensor data
- Proximity sensor/logging
- Wireless powering/reading of sensor system

For further information please contact us

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Architecture overview of Opto-ASIC with on-chip optical sensors and NFC logger

