LI8010SA

35.5mm Diagonal 122MP CMOS Sensor on 188pin PGA with 2.2µm Square Pixels at 9.4fps

DESCRIPTION

The LI8010SA series is a CMOS type solid-state imaging sensor having a size equivalent to APS-H, and a square pixel arrangement with 122 million effective pixels.
An all pixel progressive reading of 9.4 fps is possible by the 28 channel digital signal outputs.
A rolling electronic shutter function is provided for controlling electric charge accumulation periods.

*LI8010SA series consists of LI8010SAC (color),LI8010SAM(monochrome) and LI8010SAI (RGBIR).

FEATURES

- LI8010SAM: Monochrome sensor
- LI8010SAC: Color sensor (RGB on-chip color filter)
- LI8010SAI: RGBIR sensor (RGB IR on-chip color filter)
- Rolling shutter
- Record screen size: APS-H or equivalent (29.20mm x 20.19mm)
- Number of effective pixels: 13272 x 9176 (Horizontal x Vertical)
- Pixel size: 2.2 µm x 2.2 µm
- Number of output channels: Data 28 lanes, Clock 14 lanes
- Output format: 720 Mbps in LVDS output 9.4 fps @10 bit
- Main clock frequency: 45 MHz (Recommended)
- All pixel progressive reading function, reading function for the Region of Interest (ROI) Readout (Vertically)
- Vertically intermittent reading function (1/1, 1/2*, 1/3, 1/5, 1/7, and 1/15)
  * Read (1/2) mode only available for LI8010SAM.
- Built in column amplifier (Pre-amplifier gain mode: x0.5, x1, x2, x4, and x8)
- Serial communication
- Saturation: 10,000 [e] @gain x0.5
- Sensitivity of LI8010SAM: 20,000 [e/lx/sec]
- Sensitivity of LI8010SAC(Green): 10,000 [e/lx/sec]
- Sensitivity of LI8010SAI(Green): 10,000 [e/lx/sec]
- Quantum efficiency of LI8010SAM:51% @ wavelength 550nm
- Quantum efficiency (Green) of LI8010SAC:41% @ wavelength 550nm
- Quantum efficiency (IR) of LI8010SAI:9% @ wavelength 850nm
- Dark Random Noise: 2.3 [e rms] @gain x8
- Dark Current: 8.1 [e/sec] @gain x8, 60°C
- Power consumption: 2.5 W (under recommended operating conditions)
- Power supply voltage: 1.7 V, 3.5 V
- 188pin ceramic PGA
- Package size: 55.00 mm x 47.80 mm x 4.49 mm (External electrodes are not included)

FUNCTIONAL BLOCK DIAGRAM