

PG7130KA

NEW

1/3.92-inch 1.3MP global shutter image sensor single chip with embedded auto-exposure and self-booting while satisfying safety mechanisms of ASIL-B grade

Description

The PG7130KA is single chip of 1.3MP image sensor and ISP for Automotive applications such as Driver Monitoring System(DMS). By tracking the driver's gaze, the DMS camera detects the driver's drowsy or distracting behavior and collects data. The PG7130KA's global shutter operation enables motion distortion free when capturing fast moving objects. The sensor captures high-quality video up to 60 frames per second (fps) in a 1280(H) x 1024(V) resolution.

The PG7130KA outputs black and white image with an effective pixel array of 1286 (H) x 1028 (V) and it has excellent noise performance for low light condition. The output interface of PG7130KA is 2/4-lane MIPI, DVP Combo. It supports external synchronization (Genlock) and it is built in one-time programmable (OTP) memory for data calibration and product information.

The PG7130KA incorporates on-chip CIS special functions such as defective pixel correction (DPC), lens shading correction (LSC), auto exposure control (AE), auto black level compensation, 2DNR, edge enhancement, contrast enhancement, gamma correction and so on. The PG7130KA supports sufficient safety mechanisms of ASIL-B grade and qualified to AEC-Q100

Key Features

- Shutter type : Global Shutter
- Pixel type : Voltage Domain Global shutter
- 1280 x 1024 display pixel array with BW and micro-lens
- ASIL-B safety feature / AEC-Q100
- 60dB SDR
- RAW10 or RAW8 or YUV422(Y only) output
- Low fixed pattern noise of 2.8um BSI Pixel
- Low readout noise
- Programmable frame size, window size, and exposure
- External synchronization support (Genlock)
- One-time programmable memory (OTP)
- AR coating Glass (option)
- Dead Pixel Correction (DPC)
- Lens Shading Correction (LSC)
- Auto Exposure (AE)
- Black Level compensation (BLC)
- 2DNR
- Edge Enhancement
- Contrast Enhancement
- Gamma Correction
- 32bit RISC CPU with Peripherals (SPI/I2C/UART/WDT/GPIO)

Key Performance Parameters

Parameter	Typical value
Pixel size	2.8 um x 2.8 um
Shutter type	Global shutter
Display pixel array	1280(H) x 1024(V)
Effective pixel array	1284(H) x 1028(V)
Optical format	1/3.92 inch
CRA	25 °
Input clock frequency	27 MHz
Output interface	MIPI 4-lane(YUV422-only Y) 2-lane(RAW) @ 60fps 2-lane(YUV422-only Y/RAW) @ 30fps DVP(RAW) @ 60fps DVP(YUV422-only Y) @ 30fps
Max. frame rate	60 fps
Dark current	13 e-/sec @60°C
IR Sensitivity	19.3 K mV(uW.cm2.sec) @850nm 11.8 K mV(uW.cm2.sec) @940nm
Power supply	HVDD : 1.8 ~ 2.8V AVDD : 2.8 V DVDD : 1.2 V
Power consumption	215mW(Typ)
Operating temp.	-40 ~ 105 °C (Ambient)
Max. dynamic range	68 dB
SNR	38 dB
Package type	a-CSP
Package size	5,470mm x 5,074mm

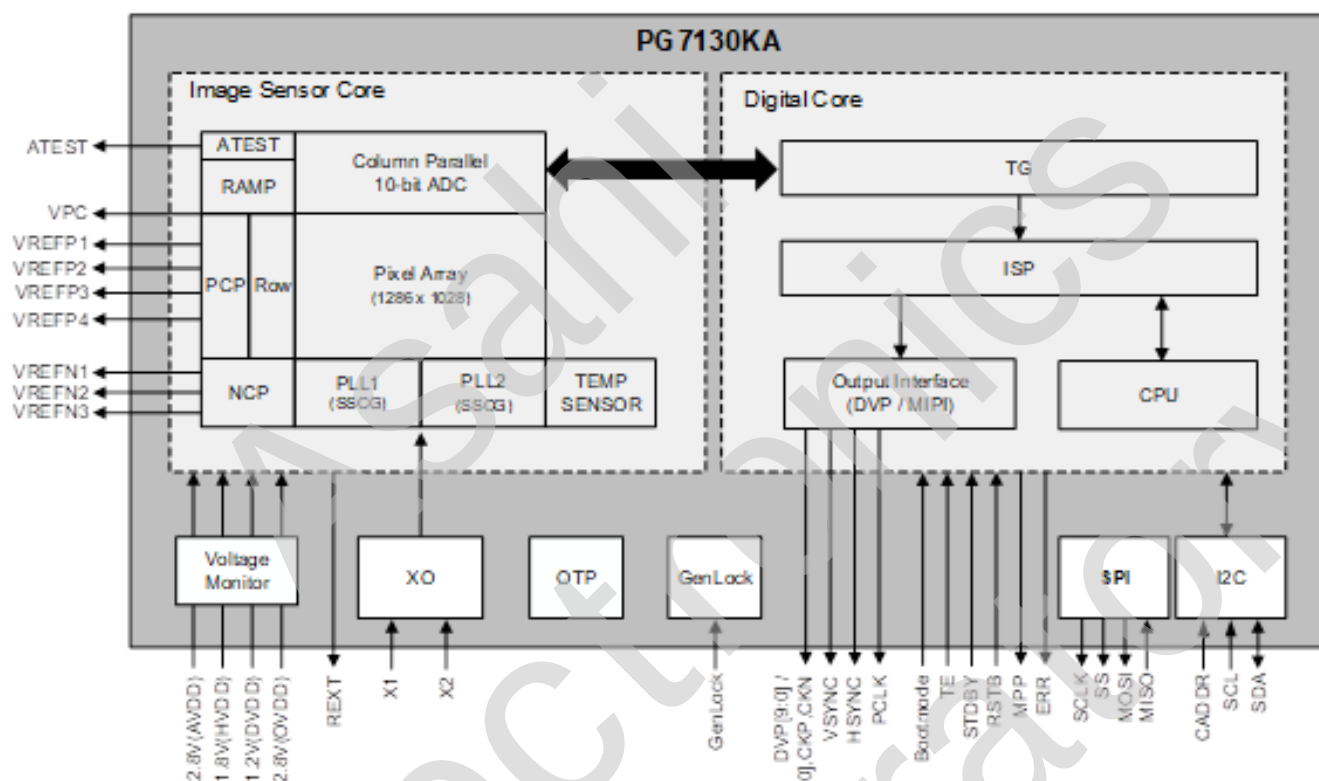
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Brief Datasheet

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Block Diagram



Application

- ❖ **Driver Monitoring System Cameras**
 - DMS(Driver Monitoring System)
 - Bar code scanning
 - Machine Vision