

Crystal Image through
Imaging Innovation

PIXELPLUS



*Preliminary
Brief Spec*

***1/4 inch HD Single Chip
CMOS Image Sensor with HD-Analog Transmitter***

PV4109K

Rev 0.0

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1/4 inch HD Single Chip
CMOS Image Sensor with HD-Analog Transmitter

Features

- 1284x724 effective pixel array with RGB bayer color filters and micro-lens
- Output Interface
 - DVP(Digital Video Parallel) 8-bit
 - Raw RGB Bayer 8-bit
 - YCbCr422 8-bit
 - HD-Analog
- Auto black level compensation
- Programmable frame size, frame rate, window size, exposure and white balance gain
- Horizontal/Vertical mirroring
- Image processing on chip : lens shading compensation, gamma correction, defect correction, color correction, NR(2D noise reduction), color interpolation, edge enhancement, brightness, contrast, de-color, auto white balance, auto exposure control, back light compensation, Color saturation, Low light enhancement
- Automatic flicker cancellation
- Smart IR-LED/TDN(moving) filter controller
- Programmable static parking guideline
- Software reset
- On-chip phase locked loop (PLL)
- I2C master included
- Crystal input support

1/4 inch HD Single Chip
CMOS Image Sensor with HD-Analog Transmitter

General Description

The PV4109K is a 1/4-inch CMOS image sensor with HD-Analog Transmitter. It is a single chip with an effective pixel array of 1284 (width) x 724 (height). The PV4109K can generate a PVI(HD-Analog) data at maximum frame rate of 30 FPS. On-chip sensor functions can be controlled through I2C interface.

Table 1 Key Performance Parameter

Parameter	Typical value
Pixel size	2.8 [um] x 2.8 [um]
Effective pixel array	1284(H) x 724(V)
Effective image area	3.5952 [mm] x 2.0272 [mm]
Optical format	1/4 [inch]
Input clock frequency	27 [MHz]
Output interface	DVP 8-bit
	HD-Analog
Max. frame rate	30 [FPS]
Dark signal	34.2 [e/sec]
Sensitivity	20.4K [e/lux*sec]
Power supply	HVDD : 3.3 [V]
	AVDD : 3.3 [V]
	RVDD : 3.3 [V]
	DVDD : 1.2 [V]
Power consumption	119.6 [mW] @ dynamic (DVP)
	163.8 [mW] @ dynamic (HD-Analog)
	383 [uW] @ standby
Operating temp. (Fully functional temp.)	-40~85 [°C] (Ambient)
Dynamic range	63.8 [dB]
SNR	43.1 [dB]
Package type	CSP