

Crystal Image through  
Imaging Innovation

**PIXELPLUS**



*Preliminary  
Brief Spec*

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

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**PV3109K**

**Rev 0.1**

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*6th Floor, Gyeonggi R&DB Center, 105, Gwanggyo-ro, Yeongtong-gu,  
Suwon-si, Gyeonggi-do, 16229, Korea  
Tel : 82-31-888-5300, FAX : 82-31-888-5398*

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

## Features

- 1288 x 728 effective pixel array with RGB bayer color filters and micro-lens
- Power supply : 3.3 [V] for HVDD, AVDD and RVDD, 1.2[V] for DVDD
- Input clock frequency : 27 [MHz]
- Interface : HD-Analog
- 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 black level compensation, auto white balance, auto exposure control, back light compensation
- Programmable frame size, window size and position
- High image quality and high low light performance
- Horizontal/Vertical mirroring
- Automatic flicker cancellation
- 4 overlay functions by using SPI ROM
- I2C /SPI master included
- Software reset
- On-chip phase locked loop ( PLL )
- Crystal input support

## General Description

The PV3109K is a 1/4-inch CMOS image sensor with HD-Analog Transmitter. It's a single chip with effective pixel array of 1288 (width) x 728 (height). The PV3109K 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	1288 (H) x 728 (V)
Effective image area	3.6064 [mm] x 2.0384 [mm]
Optical format	1/4 [inch]
Input clock frequency	27 [MHz]
Output interface	HD-Analog
Max. frame rate	30 [FPS]
Dark signal	TBD [mV/sec ] @ TBD [°C]
Sensitivity	TBD [V/Lux.sec]
Power supply	IO : 3.3 [V]

*1/4 inch HD Single Chip  
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Parameter	Typical value
	Analog : 3.3 [V]
	Core : 1.2 [V]
Power consumption	TBD [mW]@dynamic
	TBD [mW] @standby
Operating Temp. (Fully Functional Temp.)	-30~85 [°C] (Ambient)
Dynamic range	TBD [dB]
SNR	TBD [dB]