PrimeSensor

PS5220

DATA SHEET FLYER

PS5220 Full-HD 1080p CMOS IMAGE SENSOR

General Description

The **PS5220** is a highly integrated CMOS image sensor that output of **1920x1080 (Full HD-1080p)** pixels with rolling shutter readout. It embedded the new FinePixel™ sensor technology to perform the excellent image quality. **PS5220** outputs 10-bit RGB raw data through a parallel data bus. It is available in **CLCC** and **CSP** package.

The **PS5220** can be programmed to set the exposure time for different luminance condition via I2C™ serial control bus. By programming the internal register set, it performs on-chip frame rate adjustment, offset correction DAC and programmable gain control.

Features

- **1936 x 1096 pixels with Bayer-RGB color filter array and micro-lens**
- **Output format:**
  - 10-bit RAW RGB
- **Output interface**
  - 10bit parallel DVP output
- **On-chip column A/D converter**
- **On-chip manual analog gain control**
- **Continuous variable frame time & exposure time**
- **I2C™ Interface**
- **Automatic black-level calibration**
- **Black sun cancellation**
- **Programmable fast-switch configuration**
- **Support WOI and subsampling**
- **Support dummy line & pixel timing**
- **Support output Hsync at Vsync**
- **Support 1.7V~3.3V I/O**
- **On-chip PLL**
  (input_clock / PLL_m >= 1MHz)

Specifications

Parameter	Typical Value
Active array size	1936(H) x 1096(V)
Pixel size	3.0um (H) x 3.0um (V)
Shutter type	Electronic rolling shutter (ERS)
Optical format	1/2.7-inch
Lens chief ray angle	17 degree
ADC	10-bit
Sensitivity	3300 mV/Lux-sec
SNRmax	39 dB
Dynamic range	70 dB
Scan mode	Progressive scan
Input clock	Max 64Hz
Pixel clock	Max 81MHz
Max. frame rate	1080p: 1920x1080 @30fps 720p: 1280x720 @60fps VGA: 640x480 @120fps
Supply voltage	Analog: 3.3 V Digital: 1.2 V I/O: 1.7V~3.3V
Power consumption	85mW
Operating temperature	-30ºC ~ 70ºC

Applications

- **Surveillance HD-CCTV Camera**
- **Surveillance IP Camera**
- **Car Video Recorder**
- **Sports Camera**
- **Automotive Camera**
- **Video Door Phone**
- **PC/Notebook Camera**

Ordering Information

Part Number	Description
PS5220CA	48-Pin CLCC
PS5220LT	60-Ball CSP

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