

**FHD**

**30FPS**

# 1 / 2.7-Inch 1080p CMOS Image Sensor **ZN220**

**Data sheet**

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## Applications

- surveillance and automotive cameras

## Features

- **Automatic controls :**  
automatic exposure control(AEC), automatic gain control (AGC), automatic black level calibration (ABLC), automatic white balance (AWB)
- **Programmable controls :**  
exposure, gain, frame rate, horizontal mirror, vertical flip, scaling, windowing
- **Image adjusting functions :**  
lens shading correction, color correction, gamma correction, hue and saturation, brightness, contrast, sharpness(edge enhancement), false color suppression, chroma suppression
- **Support Privacy Zone and HLC function**
- **Support Motion Detection and Alarm**
- **Support TDN and smart LED control**
- **Support SMPTE274M for HD-SDI**
- **Support I<sup>2</sup>C slave interface**
- **Support 10-bit 30FPS 148.5 MHz**
- **Support for output formats :**  
10-bit raw / denoised / ISP Bayer, YUV422, RGB565, Mono, BT1120
- **Support for image size :**  
1080p up to 30fps (YUV)
- **Support for input clock :**  
20~78MHz
- **On-chip phase locked loop**
- **Built-in OSD to adjust image**
- **High sensitivity and low noise characteristics**

## Key specifications

- **Active pixel array :** 1932H X 1092V
- **Optical format :** 1/2.7 inch
- **Pixel size :** 3.0um X 3.0um
- **Scan mode :** progressive
- **Shutter :** rolling shutter
- **Maximum image transfer rate :**  
1080p (YUV) : 30FPS
- **Output interface :**  
10-bit/20-bit parallel
- **Output formats :**  
10-bit raw / denoised / ISP Bayer, YUV422, RGB565, Mono, BT656, BT1120
- **Input clock frequency :**  
20 ~ 78 MHz
- **Sensitivity :** 3.3 V/Lux.sec
- **SNR :** 40.5 dB
- **Dynamic range :** 67.4 dB
- **Dark current :** 5.34 mV/sec
- **Max CRA :** 15 °
- **Power supply :**  
analog : 3.1V ~ 3.5V (3.3V Typical)  
core : 1.1V ~ 1.3V (1.2V Typical)  
I/O : 2.6~3.6V (3.3V Typical)
- **Power requirement :**  
active : 298 mW
- **Temperature range :**  
operating : -40°C ~ 105 °C (Functional)