

# Applications

- security and surveillance cameras
  - automotive cameras
- 

## Features

### ■ Wide Dynamic Range(WDR)

### ■ Automatic controls :

automatic exposure control(AEC), automatic gain control (AGC), automatic black level calibration (ABLC), automatic white balance (AWB), auto flicker detection (AFD)

### ■ 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

■ Efficient denoising coupled with defective pixel correction

■ Support for eclipse cancellation

■ Support for flash strobe and output enable

■ Support for serial interface compatible with I<sup>2</sup>C

■ Support for output formats :

10-bit raw / denoised / ISP Bayer, YUV422, BT656, HREF, RGB565

■ Support for image size :

720 × 480p @ 60fps / 30fps  
VGA @ 60fps / 30fps

■ Support for input clock : 13.5/18/27/54MHz

■ On-chip phase locked loop (PLL, 108MHz)

---

## Key specifications

■ **Active pixel array** : 720H X 480V

■ **Optical format** : 1/3 inch

■ **Pixel size** : 6.9um X 6.9um

■ **Scan mode** : progressive

■ **Shutter** : rolling shutter

■ **Maximum image transfer rate** :

720 × 480p and VGA (Bayer) : 60fps

720 × 480p and VGA (YUV) : 60fps

■ **Output interface** : 10-bit parallel

■ **Output formats** : 10-bit raw / denoised / ISP Bayer, YUV422, BT656, HREF, RGB565

■ **Sensitivity** : 7.7V/Lux.sec

■ **SNR** : 39.5dB

■ **Dynamic range** : 90dB(@gain 8X)

■ **Dark current** : 44.0mV/sec@60 °C

■ **Input clock frequency** : 13.5/18/27/54MHz

■ **On-chip phase locked loop (PLL):**108MHz

■ **Power supply** :

analog : 3.3V ± 10%

core : 1.8V ± 5%

I/O : 2.6~3.6V (3.3V Typical)

■ **Power requirement** :

active : 223mW

standby : 611uW (master clock on)

power down : 178uW (master clock off)