

1. Parameter: ➤

- 1.4 μm x 1.4 μm pixel with OmniBSI technology for high performance (high sensitivity, low crosstalk, low noise, improved quantum efficiency)
- optical size of 1/4"
- automatic image control functions: automatic exposure control (AEC), automatic white balance (AWB), automatic band filter (ABF), automatic 50/60 Hz luminance detection, and automatic black level calibration (ABLC)
- programmable controls for frame rate, AEC/AGC 16-zone size/position/weight control, mirror and flip, cropping, windowing, and panning
- image quality controls: color saturation, hue, gamma, sharpness (edge enhancement), lens correction, defective pixel canceling, and noise canceling
- support for output formats: RAW RGB, RGB565/555/444, CCIR656, YUV422/420, YCbCr422, and compression
- support for video or snapshot operations
- support for LED and flash strobe mode
- support for internal and external frame synchronization for frame exposure mode
- support for horizontal and vertical sub-sampling, binning
- support for minimizing artifacts on binned image
- support for data compression output
- support for anti-shake
- standard serial SCCB interface
- digital video port (DVP) parallel output interface and dual lane MIPI output interface
- embedded 1.5V regulator for core power
- programmable I/O drive capability, I/O tri-state configurability
- support for black sun cancellation
- support for images sizes: 5 megapixel, and any arbitrary size scaling down from 5 megapixel
- support for auto focus control (AFC) with embedded AF VCM driver
- embedded microcontroller
- suitable for module size of 8.5 x 8.5 x <6mm with both CSP and RW packaging

➤ Specification.

Total Height: $21.8 \pm 0.3\text{mm}$

Image Density: 2592*1944

➤ SoC Spec.

- active array size: 2592 x 1944
- power supply:
 - core: 1.5V \pm 5% (with embedded 1.5V regulator)
 - analog: 2.6 ~ 3.0V (2.8V typical)
 - I/O: 1.8V / 2.8V
- power requirements:
 - active: TBD
 - standby: TBD
- temperature range:
 - operating: -30°C to 70°C (see **table 8-1**)
 - stable image: 0°C to 50°C (see **table 8-1**)
- output formats: 8-/10-bit RGB RAW output
- lens size: 1/4"
- lens chief ray angle: 24° (see **figure 10-2**)
- input clock frequency: 6~27 MHz
- S/N ratio: TBD
- dynamic range: TBD
- maximum image transfer rate:
 - QSXGA (2592x1944): 15 fps
 - 1080p: 30 fps
 - 1280x960: 45 fps
 - 720p: 60 fps
 - VGA (640x480): 90 fps
 - QVGA (320x240): 120 fps
- sensitivity: TBD
- shutter: rolling shutter / frame exposure
- maximum exposure interval: $1964 \times t_{\text{ROW}}$
- pixel size: 1.4 μm x 1.4 μm
- well capacity: TBD
- dark current: TBD
- fixed pattern noise (FPN): TBD
- image area: 3673.6 μm x 2738.4 μm
- package dimensions: 5985 μm x 5835 μm

