

OS04F10

4-Megapixel Product Brief



4-Megapixel CMOS Image Sensor with PureCel®Plus and Nyxel® NIR Technologies for Security Applications

OMNIVISION's OS04F10 is a 2.0-micron pixel, 4-megapixel (MP) resolution CMOS image sensor for IP and high-definition analog cameras, as well as IoT and home security cameras. When paired with the designer's selected platform, the OS04F10 can enable a system ultra low power mode for battery-powered cameras with always-on functionality. Additionally, it provides high 2688 x 1520 resolution with a 16:9 aspect ratio, while adding the premium near-infrared (NIR) and ultra low light, SNR1 performance of its Nyxel® and PureCel®Plus technologies. This sensor also offers multiple high dynamic range (HDR) options for the highest quality 4MP still and video captures of fast-moving objects at 60 frames per second.

The OS04F10 is built on the PureCel®Plus pixel architecture to achieve a superior low-noise design, providing an SNR1 that is 150% better than OMNIVISION's prior-generation OV4689 4MP mainstream security sensor. This new sensor maintains the same high 4MP resolution as the popular OS04C10, while maintaining improved NIR, ultra low light and HDR performance for these IP and high-definition analog cameras, IoT and home security cameras, along with a new ultra low power mode that consumes 98.9% less power than the normal mode for longer battery life.

OMNIVISION's industry-leading Nyxel® NIR technology, combined with its PureCel®Plus technology and multiple HDR options, enables the OS04F10 to work equally well in all lighting conditions. It can detect incident light in both the visible and NIR wavelengths, while producing precise color and monochrome images for security applications.

The OS04F10 is infused with Nyxel® technology, which provides exceptional quantum efficiency (QE), enabling the sensor to see better and farther at both the 850 nm and 940 nm NIR wavelengths. Such excellent QE also enables the use of lower power IR illumination in total darkness, resulting in significantly reduced system-level power consumption. Additionally, 940 nm NIR lighting cannot be detected by the human eye in dark indoor settings, while 850 nm light is ideal for outdoor security cameras. The OS04F10's ability to capture crisp, clear images using undetectable 940 nm NIR light means that indoor security cameras will not disturb sleeping residents and can be easily concealed from unwanted prowlers.

Applications

- Security cameras
- Action cameras
- High resolution consumer cameras

Features

- **Active array size:** 2688 x 1520
- **Maximum image transfer rate:**
  - 2688 x 1520: 60 fps
  - 1920 x 1080: 80 fps
  - 1280 x 720: 240 fps
- **Power supply:**
  - Core: 1.2V
  - Analog: 2.8V
  - I/O: 1.8V
- **Output interfaces:** Up to 4-lane MIPI serial output interface
- **Output formats:** 10/12-bit RGB RAW
- **Lens size:** 1/3"
- **Pixel size:** 1.998 µm x 1.998 µm

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