

# Enhanced Vision, Seeing Beyond Limits



## KEY BENEFITS

- » 1.3 million pixels (1,024 (V) x 1,280 (H)), 5.3µm square pixels with micro-lens
- » Enhanced sensitivity in the near infrared region
- » High quantum efficiency (peak >70%)
- » Low noise, rolling shutter allowing true CDS and global reset for best SNR (EV76C660)
- » Global shutter for sharp images of fast moving objects (EV76C661)
- » High speed: 60fps at full resolution, low-light CMOS sensor
- » Multiple simultaneous regions of interest (four separate windows)
- » Linear dynamic range >62dB @25°C with possible HDR modes
- » Low power consumption, <200 mW
- » Operating temperature (-30°C to +65°C)
- » Package: CLCC 48 12.7mm x 12.7mm
- » System on chip with SPI control and 10 bits parallel outputs

## APPLICATIONS

### EV76C660

- » Surveillance IP/CCTV cameras
- » Biometrics/medical applications

### EV76C661

- » Industrial machine vision
- » Barcode reading/scanners
- » Smart cameras
- » Intelligent traffic systems

## ORDER CODES

- » EV76C660ABT  
B&W, rolling shutter
- » EV76C660ACT  
Color, rolling shutter
- » EV76C661ABT  
B&W, global shutter
- » EV76C661ACT  
Color, global shutter



The EV76C660 and EV76C661 are the newest members of **Teledyne e2v's** Ruby family of CMOS imaging sensors. These breakthrough devices provide sensitivity and performance beyond that considered possible on a front side illuminated sensor with a pixel size of 5.3µm, Quantum Efficiency (QE) of over 80% and excellent sensitivity and performance in the near-infrared (NIR) spectrum (>50% at 850nm). This significantly reduces system illumination costs, or enables very low-light imaging in outdoor camera applications. The EV76C660 and EV76C661 share the same package, pin-out and software interface as **Teledyne e2v's** Sapphire family of imaging sensors, enabling them to provide a range of differentiated industrial camera products from a single hardware and software development effort.

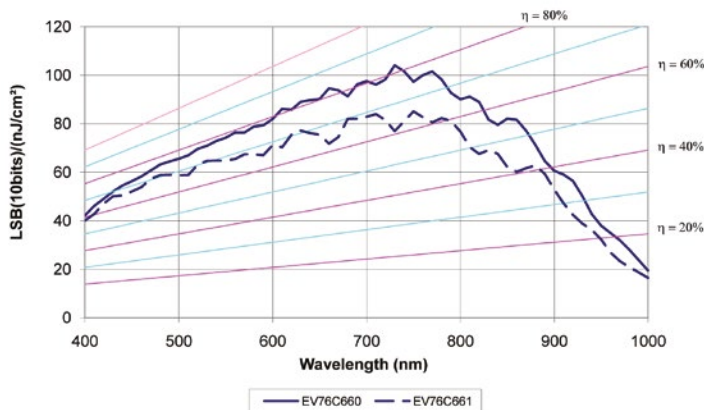
## SENSOR CHARACTERISTICS

	EV76C660 Rolling shutter	EV76C661 Global shutter
Resolution – pixels	1,024 (V) x 1,280 (H)	1,024 (V) x 1,280 (H)
Image size – inches	1/1.8	1/1.8
Pixel size – µm	5.3 x 5.3	5.3 x 5.3
Aspect ratio	5:4	5:4
Max frame rate – fps	60 @ full / >100 @ VGA	60 @ full / >100 @ VGA
Pixel rate – Mpixels/s	90 to 120	90 to 120

## PIXEL PERFORMANCE

Bit depth – bits	10	10
Dynamic range – dB	>66 (linear) / >100 (HDR)	>63 (linear) / >100 (HDR)
SNR max – dB	39	39
Responsivity – LSB10/(Lux/s)	15,000	13,000
Power consumption		
Functional – mW	<200	<200
Standby – µW	180	180

## SPECTRAL RESPONSE AND QUANTUM EFFICIENCY



## SENSOR OVERVIEW

