

ENHANCED VISION

SEEING BEYOND LIMITS



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 5.3 μ m, 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.

KEY BENEFITS

- 1.3 million pixels (1,024 (V) x 1,280 (H)), 5.3 μ m 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: 60 fps at full resolution, low-light CMOS sensor
- Multiple simultaneous regions of interest (four separate windows)
- Linear dynamic range >62 dB @25°C with possible HDR modes
- Low power consumption, <200 mW
- Operating temperature (-30°C to +65°C)
- Package: CLCC 48 12.7 mm x 12.7 mm
- System on chip with SPI control and 10 bits parallel outputs

APPLICATIONS

EV76C660

- Surveillance IP/CCTV cameras
- Biometrics/medical applications

EV76C661

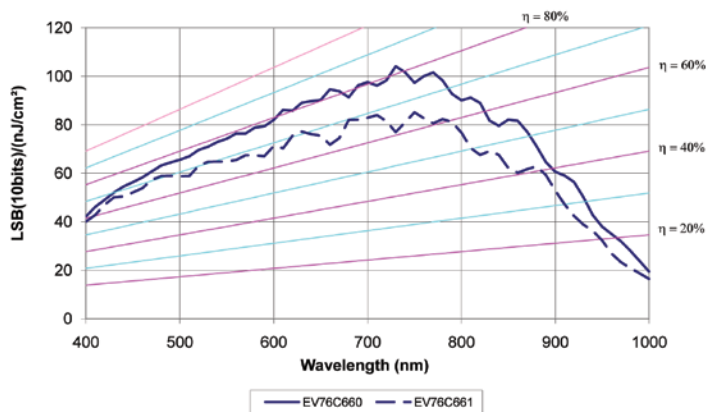
- Industrial machine vision
- Barcode reading/scanners
- Smart cameras
- Intelligent traffic systems



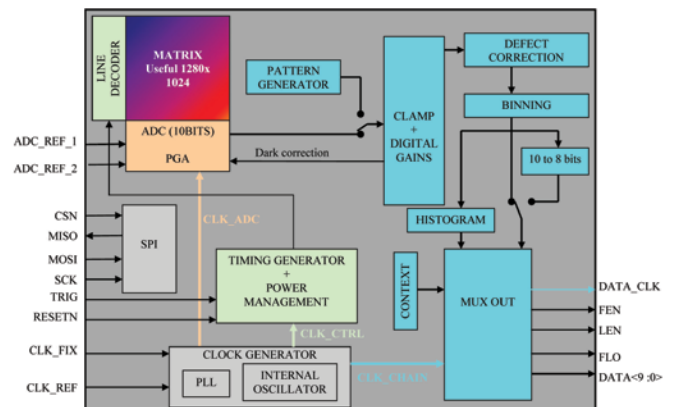
Sensor Characteristics

	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 & QUANTUM EFFICIENCY



SENSOR OVERVIEW



ORDER CODES

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