



## Bigeye

### G-283 Cool

- Specially made for scientific applications
- Exposure time up to more than 4200 s

### **For demanding applications for both the visible spectrum and the NIR spectrum**

Low noise cooled CCD cameras, up to 11 MP, prime quality

Bigeye G-283 Cool with Sony ICX674 runs 5.7 frames per second at 2.8 MP resolution.

The Bigeye is a Peltier cooled camera series for demanding applications. It is equipped with highly sensitive CCD sensors from Sony and OnSemi. Bigeye cameras are designed for low-noise image acquisition even at long exposure times. The compact, robust metal housing of all Bigeye cameras has a hermetically sealed vacuum section, ensuring maintenance-free operation for many years even under rough conditions. Moreover, two NIR enhanced camera versions are available (with ICX285 and KAF-6303E).

- Dual level Peltier cooling with 5 years warranty against condensation
- Low dark current even at very long exposure times
- Superior signal/noise ratio
- Robust alloy metal housing for industrial use
- Secure operation due to screw locks at all connectors
- Multi-functional, user-configurable I/O interface
- Support of AVT's GigE software development kits (SDKs)

## Specifications

Interface	IEEE 802.3 1000baseT
Resolution	1928 (H) × 1452 (V)
Sensor	Sony ICX674
Sensor type	CCD Progressive
Sensor size	Type 2/3
Pixel size	4.54 μm × 4.54 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	5.7 fps
ADC	14 Bit
Image buffer (RAM)	32 MByte
Cooling temperature	-10 °C
Dark current	0.020 e-/pixel/s
Temporal dark noise	8 e-
Saturation capacity	18000 e-
Dynamic range	67 dB

### Output

Bit depth	14 Bit
Monochrome pixel formats	Mono8, Mono12Packed, Mono14

### General purpose inputs/outputs (GPIOs)

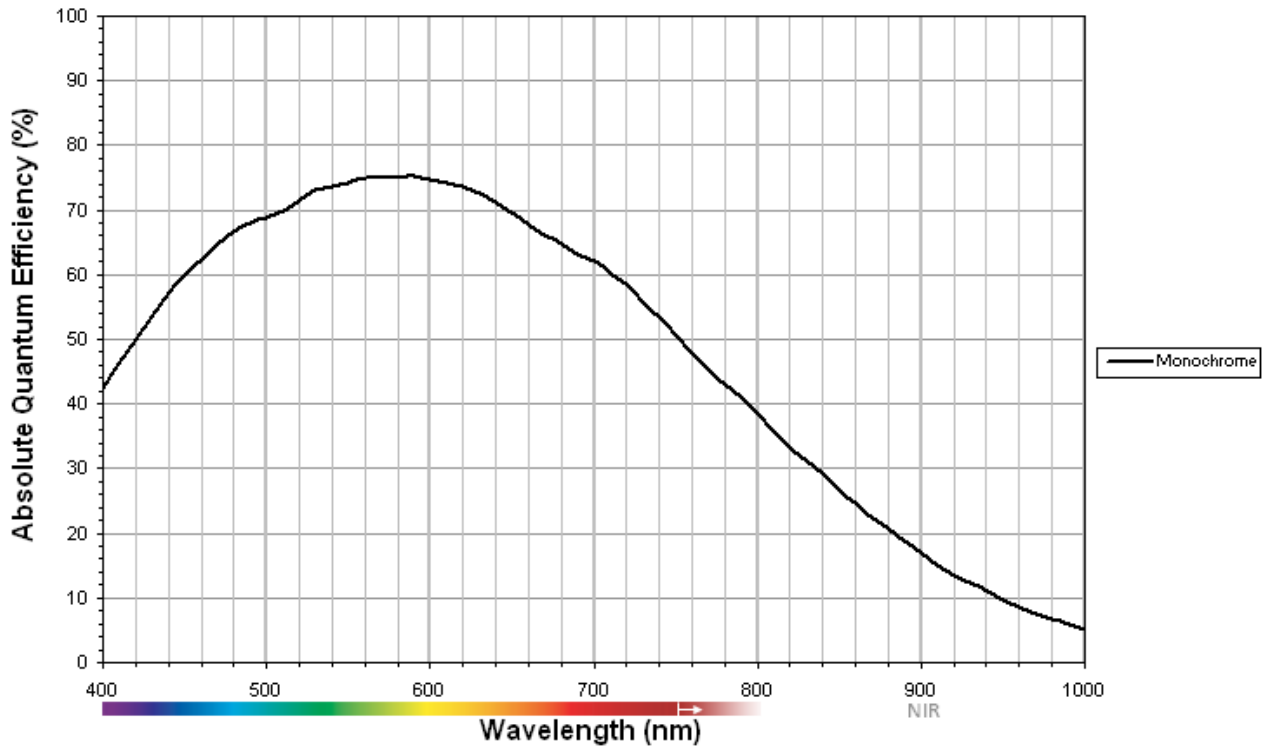
TTL I/Os	1/1
Opto-isolated I/Os	3/3
RS232	2

### Operating conditions/dimensions

Operating temperature	0 °C to 35 °C
Power consumption	max. <36 W at 12 VDC, typ. <18 W at 12 VDC
Mass	1250 g
Body dimensions (L × W × H in mm)	100.8 × 90 × 99 (including connectors)

## Quantum efficiency

### Spectral sensitivity



## Features

- Gain (6 dB)
- Exposure time 9083  $\mu$ s to 4294 seconds ( $\approx$  71 min)
- Binning (2x1, 2x2)
- Gamma 0.45, 0.5, 0.7
- Three look-up tables (LUTs)
- Five storable user sets

**Easy integration** The Bigeye G-283B Cool can be easily integrated into your application, since it is GigE Vision compliant and compatible with Allied Vision's GigE SDKs. Additionally, this camera can be used with numerous third-party software solutions.

## Applications

The Bigeye G-283B Cool is a low noise CCD camera with an excellent signal/noise ratio. It is best suited for applications with the highest demands on image quality. Thanks to the Peltier cooling, it is ideal for image acquisition with long exposure times. Typical applications:

- Low-noise imaging (industrial and scientific imaging)
- Image acquisition with long exposure times
- Microscopy with high resolution
- Fluorescence microscopy
- Gel electrophoresis, DNA documentation
- Non-destructive evaluation of photosensitive objects
- Astronomy