

HIGH SPEED LOW NOISE ELECTRONIC SHUTTERED SCIENTIFIC CAMERA



VISIBLE
400 - 900 nm



2067 FPS





Subelectron RON



240 x 240 EMCCD
24 μm pixel pitch



SDK compatible with μManager,
LabVIEW, MatLab, , 

**FOR HIGH SPEED LOW LIGHT
SHUTTERED APPLICATIONS**



Embedded Electronic Shutter
< 0.05 μs

APPLICATIONS

ASTRONOMY:

Laser guide star adaptive optics

LIFE SCIENCES:

Cellular Microscopy
Fluorescence Microscopy

LASERS:

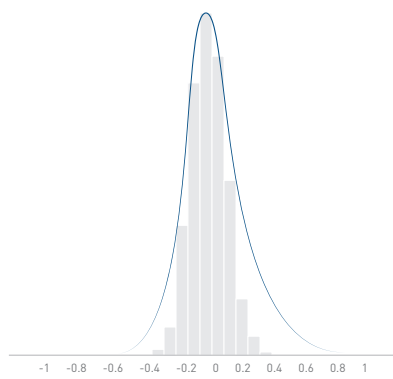
Laser Pulsed applications

OCAM²S PERFORMANCES

TEST MEASUREMENT	Result	Unit
Maximum speed Full Frame	2 067	FPS
Mean readout noise at 2000 FPS and multiplication gain ~600	0.4	e-
Dark signal at 2000 FPS at -45°C	<0.01	e- pixel ⁻¹ frame ⁻¹
Quantization	14	bit
Detector Operating Temperature	-45	°C
Peak Quantum Efficiency at 650nm	>90	%
Linearity at gain x1000 from 10 e- to 150 e-	<3.5	%
Linearity at gain x1 from 15,000 e- to 150,000 e-	<3.5	%
Image Full Well capacity at gain x1	80 000	e-
Ultra low latency Camera Link® Full interface	43	µs
Maximum speed in 2 x 2 binning mode	3 700	FPS
Shutter resolution	<0.05	µs

ADDITIONAL FEATURES
Output : Camera Link® Full
Optical Interface : C-Mount
14 bits precision A/D converter
Integrated cooling temperature controller
Fully sealed resistant aluminum body with low thermal gradient
Clock & Trigger input/output for synchronous operation
Custom design and Read Out modes available upon request
Internal or External Trigger modes
Single, Burst, Sweep triggering

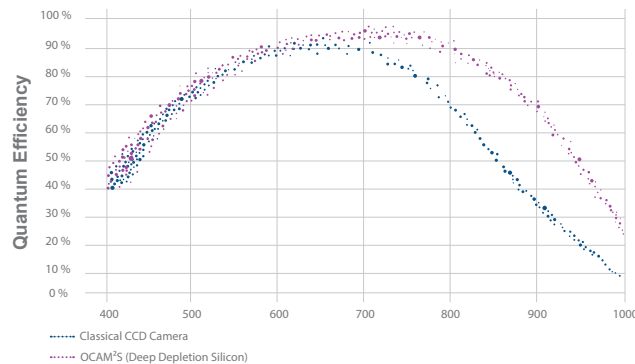
NOISE HISTOGRAM FOR GAIN X 1000



Pixel Value Input Referred (e-)

TYPICAL QUANTUM EFFICIENCY, NO WINDOW, AT 228°K

CCD219 QE at -45°C Basic ER1



Wavelength (nm)



SWaP : H175 x W76 x L242.4 mm, 4.2 kg, up to 90 W typical with cooling

WAVEFRONT SENSOR OPTION

MICROLENS ARRAY SPECIFICATIONS (standard proposal, customizable on request)	Result	Unit
Focal length (distance to maximum intensity) @ 633nm	22	mm
Number of sub-apertures	20 x 20	N/A
Lens shape	Square	N/A
Lens pitch	288	µm
Lens clear aperture	>286	µm
Lens array position on substrate	Centered	N/A
Fill factor	>98	%

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