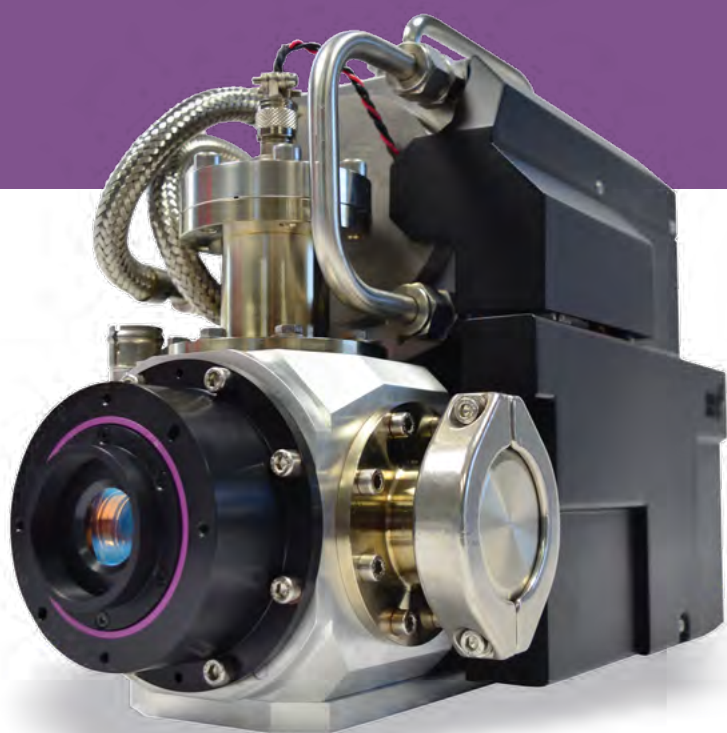


## ULTRA LOW NOISE ULTRA HIGH SPEED SWIR CAMERA



SCIENTIFIC CAMERA FOR INFRARED IMAGING



0.8 – 2.5  
µm



3500 FPS



Subelectron  
RON



e-APD MCT,  
320 x 256

### MAIN FEATURES

- Deep cooled sensor @80K for ultra low dark operation
- Revolutionary e-APD MCT array
- 24 µm pixel pitch
- Multiple readout modes

FASTEST AND LOWEST NOISE SWIR CAMERA FOR HIGHLY DEMANDING SCIENTIFIC APPLICATIONS

### APPLICATIONS

#### ASTRONOMY:

Adaptive Optics for Astronomy  
Astronomical Observations  
with Interferometers  
Speckle Interferometry  
Space Debris Tracking  
Fringe Tracking

#### LIFE SCIENCES:

Cellular Microscopy  
Fluorescence Microscopy  
Raman Spectroscopy  
Hyperspectral Imaging  
OCT imaging

#### INDUSTRY:

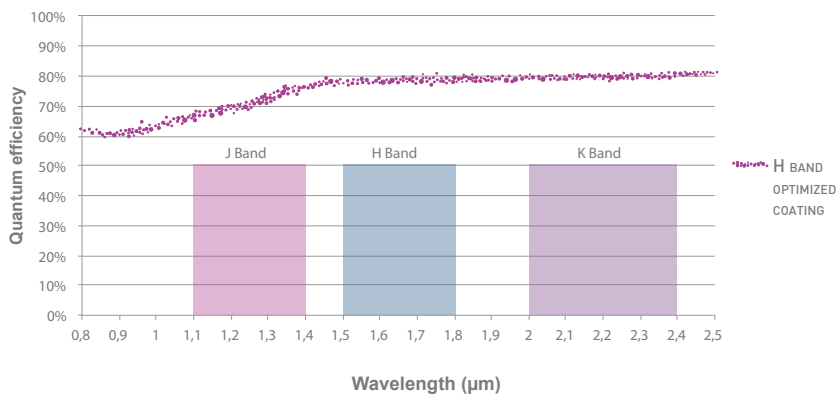
Semiconductor inspection

# C- RED One PERFORMANCES

TEST MEASUREMENT	Result	Unit
Maximum speed Full Frame	3507	FPS
Readout Noise at 3500 FPS and gain ~ 30	<1	e-
Mean Dark (looking at cold stop)	<50	e-/p/s
Quantization	16	bit
Detector Operating Temperature (No LN)	80	K
Flat Quantum Efficiency from 1.1 $\mu\text{m}$ to 2.5 $\mu\text{m}$	>70	%
Operability $\pm$ 30%	99.3	%
Image Full well capacity at gain X1, 3500 fps	50 000	e-
Excess noise Factor F	<1.25	n/a

ADDITIONAL FEATURES
Output : Camera Link® Full
Optical Interface : T-Mount
Multiple Readout Modes <ul style="list-style-type: none"> <li>•Global reset in single, CDS or multiple non destructive reads</li> <li>•Rolling reset</li> </ul>
Windowing
ROI
Ultra low latency Camera Link® full interface
Clock & Trigger input/output for synchronous operation
Custom design available upon request
F/4 or F/2 Aperture
Embedded cold blocking filters

TYPICAL QE OF SAPHIRA E-APD



SWaP : H 238 x W 180 x L 365 mm, 19.4 kg, up to 300 W

First Light Imaging SAS  
 Europarc Sainte Victoire Bât 6, Route de Valbrillant, Le Canet 13590  
 Meyreuil FRANCE  
 Tel.: + 33 4 42 61 29 20  
[www.first-light-imaging.com](http://www.first-light-imaging.com)  
[contact@first-light.fr](mailto:contact@first-light.fr)

First Light Imaging Corp.  
 185 Alewife Brook Parkway, Suite 210, Cambridge, MA 02138 USA  
[www.first-light.us](http://www.first-light.us)



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