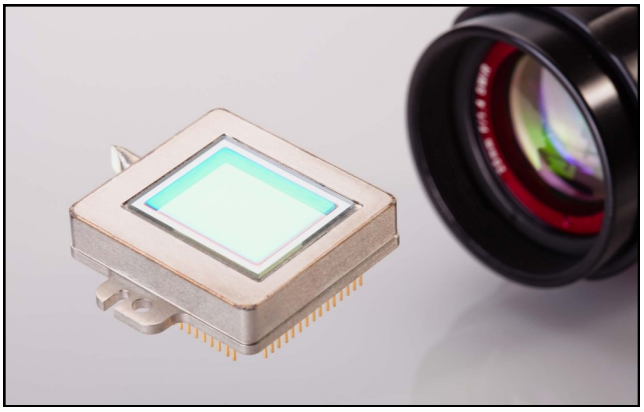
APS640C

640x512 InGaAs Sensor Head

InGaAs Sensor Head

for Low-Light, SWIR Imaging Applications

The APS640C is a versatile, low noise InGaAs camera head for low-light SWIR applications. The camera head images under low light conditions and sees common laser wavelengths. Aerius Photonics proprietary InGaAs provides high quantum efficiency and low dark current for increased sensitivity in low-light situations. Windowing allows for increased frame rate in localized areas.

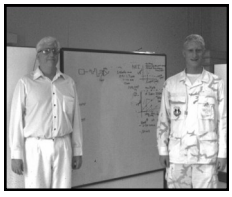


Features

- ***640 x 512 pixel format***
- ***25 um pixel pitch***
- ***Wavelength range: 0.9—1.7um***
- ***High operability (> 99.5%)***
- ***Full Frame rate up to 100 Hz***
- ***Windowing***
- ***High quantum efficiency***
- ***Integrated TE Cooler***

Applications

- ***Low-light imaging***
- ***Industrial sorting***
- ***Spectroscopy***
- ***Emission microscopy***
- ***Astronomy***



Aerius Photonics
is a leading designer and seller of highly-efficient semiconductor lasers, low-noise photodetectors and OEM electro-optical sub-systems for commercial and government applications.

Other Aerius Photonics Products

- ***High power pulsed and continuous VCSELs***
- ***Miniature laser range-finders and altimeters***
- ***Long range compact rangefinders***
- ***NIR laser illuminators and pointers***
- ***Infrared detectors and focal plane arrays***

Preliminary Datasheet—Specifications may change at any time without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use. The APS640C is export restricted. August 2011.

AERIUS PHOTONICS, LLC
2223 EASTMAN AVE, SUITE B,VENTURA, CA 93003
PHONE: 805-642-4645 FAX: 805-644-4752 WWW.AERIUSPHOTONICS.COM DETECTORS@AERIUSPHOTONICS.COM

(OVER)

APS640C

640 x 512 InGaAs Sensor Head

Performance Specifications

Sensor format	640 x 512
Pixel pitch	25 um
Max frame rate (full frame)	100 fps
Spectral sensitivity	0.9—1.7 μm
Optical fill factor	100%
Full well capacity	50,000 (HG), 2,500,000 (LG) electrons
Readout noise	110 (HG), 500 (LG) electrons
Windowing	Arbitrary region of interest
Integration modes	Snapshot, Integrate Then Read Snapshot, Integrate While Read
Quantum efficiency	> 70%
Operability	> 99.5%
Noise Equivalent Irradiance	11 x 10^8 photons/cm^2-s
Integration times	4 μs to 95% of frame time

Mechanical & Electrical Specifications

Width x Height x Depth (excluding pins)	1.5 x 1.46 x 0.274
Outputs	1, 2, or 4
Min # of pins to run chip	28
Max bias voltage	5.5V
Clock voltage	5V
Optical fill factor	100%
TEC included	Yes
Temperature sensing	On-chip and off-chip

AERIUS PHOTONICS, LLC
2223 EASTMAN AVE, SUITE B,VENTURA, CA 93003
PHONE: 805-642-4645 FAX: 805-644-4752 WWW.AERIUSPHOTONICS.COM DETECTORS@AERIUSPHOTONICS.COM