

New cooled InGaAs camera for quantitative SWIR imaging and spectroscopy

The camera uses selected InGaAs focal plane arrays with low dark current and low defective pixels.

Thanks to efficient cooling, stable offset and low dark current, the InGaAs camera allows reproducible acquisition for precise metrology measurements in the SWIR spectrum.

Camera link and Gigabit Ethernet Vision compliant interface enables easy integration into existing systems.

InGaAs sensors with visible extension are available in 640 x 512 and SWIR extension in 320 x 256 resolution.

OEM versions with special form factors/cooling options are available for integration into specific instruments/systems.

APPLICATIONS

All cameras are available with passive cooling for

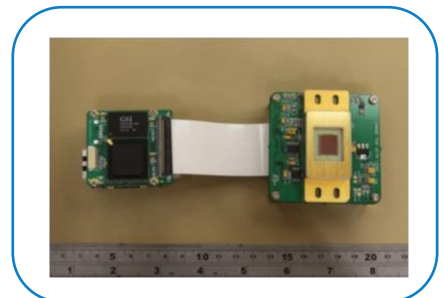
- Semiconductor inspection
- SWIR hand held vision enhancement
- SWIR airborne payload
- Photoluminescence for solar cells

Air cooling or water cooling are available for long exposure applications such as

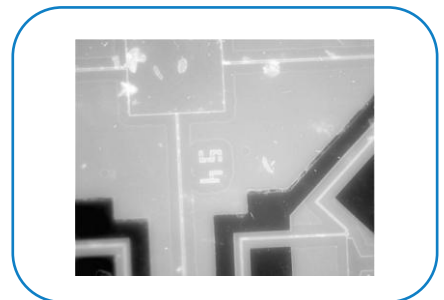
- Astronomy
- Hyper spectral imaging
- Laser beam profiling
- Spectroscopy



SWIR /InGaAs camera



Cooled InGaAs OEM Module

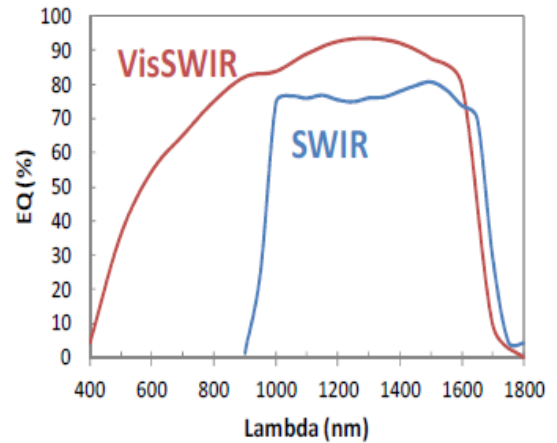


Characterization of MEMS device using SWIR InGaAs camera with 20x objective, exposure time 6ms (Courtesy: Olympus America Inc)

FEATURES

Cooled InGaAs Camera

- 14-bit digitization
- Genicam Compliant
- Read out noise down to typically 27 electrons
- 120 fps with VGA at full resolution
- Non-uniformity, bright pixel, gain & offset corrections
- High Gain and High Dynamic Range operation modes
- Excellent linearity response to varying intensities
- Auto-exposure control
- Integration multiple read-out mode
- Software option: SDK kit, Labview VI's, PSL Software



CHARACTERISTICS	PSL VGA 15 microns
Spectral Range	900-1700nm
Frame rate	120 fps at full resolution
Sensor Size	9.6 mm x 7.68mm
Resolution in pixels	640 x 512
Pitch (microns)	15
Full well capacity	40,000 electrons (high gain mode) 100,000 electrons (mid gain mode) 1,500,000 electrons (low gain mode)
Read-out noise	27 electrons (high gain mode) 46 electrons (mid gain mode) 370 electrons (low gain mode)
Reading mode	ITR, IWR, NDR
Dark current	<1 fA
Sensor Operating Temperature	-20 C with air cooling, -40 C with water cooling (lower dark current)
Corrections	Non uniformity, bright pixel, gain, offset, flatfield
ADC	14-bit
QE@1.1 microns	80%
Firmware upgrade	YES (SD card)