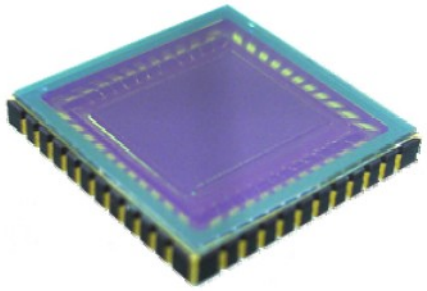
SWIR InGaAs camera

PSL is supplying Short Wave Infra Red (SWIR) cameras to end users and OEMs for the last couple of years. A selection of high responsitivity InGaAs sensors, combined with low noise electronics and deep cooling, enables optimum photonic collection with best possible signal to noise ratio. Special read whilst expose mode allows 100% shutterless duty cycle and high sensitivity operation in low light level conditions.



Applications:

- Solar cell inspection
- Bare solar cell silicon wafer inspection
- Semiconductor inspection
- Astronomy
- Temperature furnace monitoring
- Industrial thermal imaging
- Imaging spectroscopy
- Dermatologic imaging
- Thick sample / tissue IR microscopy
- Laser profiling / telecom
- Low ligh Level / range gated IR imaging

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Photonic Science

Information / products and services

Scientific detector systems

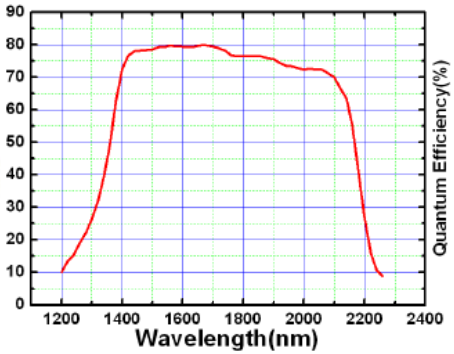
SWIR cameras

Photonic Science Ltd selects premium grade InGaAs sensors :

- Cooled sensors with 45 and 70 degrees C delta T, includes hermetically sealed package
- 10Mhz scanning frequencies
- Dynamic range > 1000:1
- Low dark current with less than 30 pA
- Gating time from milliseconds to > 500ns to >1 second
- Pixel operability: > 99.5%
- Simultaneous integration / readout enabling 100% duty cycle acquisition
- Non destructive read out
- Camera link & GigE digital interface
- Air cooled / water cooled option
- Synchronisation / control : via TTL pulse
- Integrated Non Uniformity Correction, bright pixel, flat field and offset corrections
- 320 (h) x 256 (v) InGaAs array
- Input pixel size : 30 x 30 microns
- Input size : 9.6 x 7.68 mm
- 70 fps at full resolution @ 10 MHz
- Responsitivity in low gain mode: 0.7mV / electron
- Responsitivity in high gain mode: 13.3mV / electron
- 16-bit digitization

SWIR LR 2.2 Extended

- Readout noise : 130 - 150 electrons @ 10 MHz with interpolation noise reduction in high gain mode, 350 electrons in low gain mode
- Full well capacity : 170,000 electrons in high gain mode; 3,500,000 electrons in low gain mode
- Sensitivity: 5 x 10^11 Jones with 1ms integration time @ 2000 nm
- Peak QE: >80% @1670nm, > 70% from 1400 to 2100 nm



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