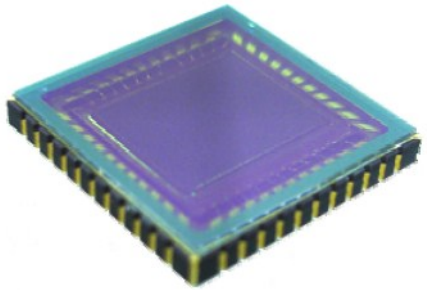
SWIR VGA camera

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
- Bare solar cell silicon wafer inspection
- Astronomy
- Temperature furnace monitoring
- Industrial thermal imaging
- Imaging spectroscopy
- Deep dermatologic imaging
- Thick sample microscopy
- Laser profiling / telecom

Photonic Science

Millham, Mountfield
Robertsbridge, East Sussex
TN32 5JU
UK

Tel main office : +44 (0)1 580 88 11 99
sales : +33 (0)4 7 93 57 20
info@photonic-science.co.uk

Photonic Science

Information / products and services

Scientific detector systems

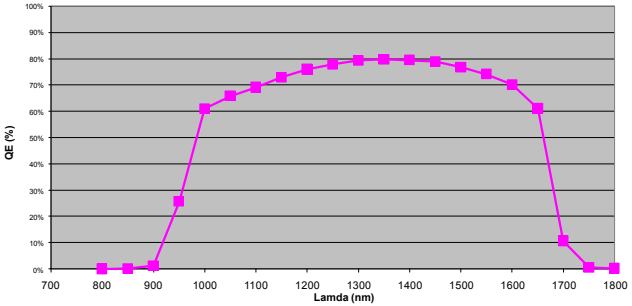
SWIR VGA cameras

Photonic Science selects premium InGaAs sensors :

- 640 (h) x 512 (v) InGaAs array
- Input pixel size : 25 x 25 microns
- Input size: 16 mm x 12.8 mm
- 22 fps at full resolution
- Dynamic range: 5000:1 in High Range mode
- Dynamic range 300:1 in High Gain mode
- Responsitivity in low gain mode: 1.3mV / electron
- Responsitivity in high gain mode: 64mV / electron
- Readout noise : 120 - 150 electrons, <100 electrons with interpolation noise reduction in High Gain mode, 380 electrons in High Range mode, <300 electrons with interpolation noise reduction
- Full well capacity : 39,000 electrons in High Gain mode; 1,900,000 electrons in High Range mode
- Gating time from milliseconds to > 500ns to 1 second
- 16-bit digitization
- Pixel operability: > 99.5%
- Simultaneous integration / readout enabling 100% duty cycle acquisition
- Non destructive read out
- Video CCIR and GigE digital interface
- Air cooled / water cooled option
- Synchronisation / control : via TTL pulse
- Integrated Non Uniformity Correction, bright pixel, gain, flat field and offset corrections
- Sensitivity: > 5 10^12 Jones with 16ms integration time @ 1550 nm

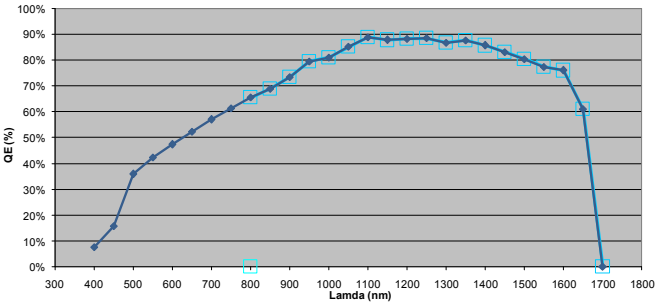
SWIR VGA standard

- Peak QE: >75% @1350nm
- useful spectral range from 900 to 1700 nm
- Dark current at —20 degree operating temperature (air cooled version): 1fA
- Dark current at —40 degree operating temperature (water cooled version): 0.13fA



SWIR VGA extended

- Peak QE: >85% @1100nm
- useful spectral range from 400 to 1700 nm
- Dark current at —20 degree operating temperature (air cooled version): 1.55fA
- Dark current at —40 degree operating temperature (water cooled version): 0.21fA



Photonic Science

Millham, Mountfield
Robertsbridge, East Sussex
TN32 5JU
UK

Tel main office : +44 (0)1 580 88 11 99
sales : +33 (0)4 76 93 57 20
info@photonic-science.co.uk