

SU320M-1.7RT

InGaAs SWIR MiniCamera

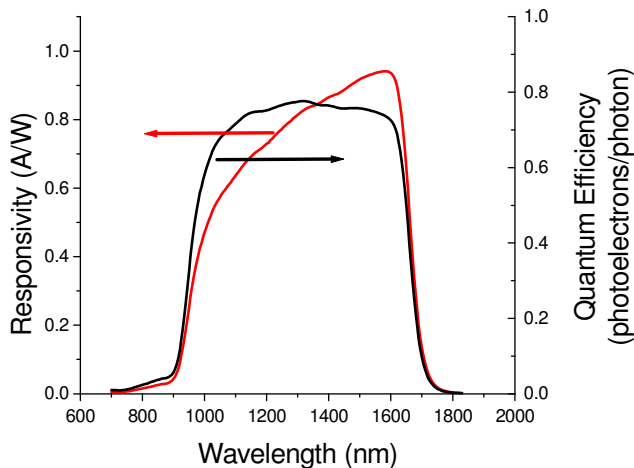


The compact SU320M-1.7RT InGaAs high resolution, room temperature video camera allows users to capture images in the near (NIR) and short-wave (SWIR) infrared wavelength regions with high sensitivity and convenience.



APPLICATIONS

- Laser beam profiling
- Semiconductor inspection
- Assembly & monitoring of optical switches
- Inspection of Fiber Optic components
- Free space communications
- Thermal imaging through glass optics



FEATURES

- 320 x 240 format with 40 μm square pixels
- High sensitivity in the near infrared spectrum (0.9 μm to 1.7 μm)
- Compact size
- Low power, < 1.6 W
- All solid-state InGaAs imager
- Digital & composite video outputs
- Programmable exposure times
- Room temperature operation
- Accepts standard C-mount lenses

The SU320M-1.7RT Indium Gallium Arsenide near infrared camera is a compact and versatile imaging tool. All SUI cameras operate at room temperature therefore they are equally at home in industrial settings as they are in the laboratory. Simply power this camera by using 3.6 to 5 VDC or 100 to 240 VAC when used with the AC adapter. Video images can be seen on any EIA170 or CCIR compatible monitor. The 12-bit digital data is also available simultaneously in an EIA422 format. The SU320M-1.7RT is compatible with most commercially available digital frame grabber boards, while it features anti-bloom design, 100% fill factor, and on-board, factory-set non-uniformity correction factors (NUCs).

SUI knows IR™

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MECHANICAL

Length x Width x Height	5 cm x 6 cm x 9.5 cm 1.96 in x 2.36 in x 3.74 in
Weight	< 300 g (no lens)
Focal Plane Array Format	320 x 240 pixels
Pixel Pitch	40 μm
Lens Mount	C-mount

ENVIRONMENTAL & POWER

Operating Temperature	0°C to 40°C
Storage Temperature	-10°C to 60°C
Humidity	Non-condensing
Power Requirements: AC Adapter Supplied DC (Voltage/Current)	100-240 VAC, 47-63 Hz 3.6-5 V/<0.6 A at 25°C ambient

ELECTRICAL SPECIFICATIONS

Optical Fill Factor	100%
Spectral Response	0.9 μm to 1.7 μm
Quantum Efficiency	> 65% from 1 μm to 1.6 μm
Mean Detectivity, D^*v^1	> 2×10^{12} $\text{cm}\sqrt{\text{Hz/W}}$
Noise Equivalent Irradiance ¹	< 5×10^9 photons/ $\text{cm}^2 \cdot \text{s}$
Noise (RMS)	< 1000 electrons
Full Well (Typical)	> 2×10^6 electrons
True Dynamic Range	> 2000:1
Operability ²	> 99%
Exposure Times	127 μs to 16.27 ms/16.38 ms (EIA170/CCIR) variable in 8 steps
Image Correction	2-point (offset and gain) pixel by pixel user selectable at all 8 integration times
Digital Output Format	12 bit EIA422 format (corrected and uncorrected data is available)
Analog Output Format	Interlaced or progressive scan for video monitors
Frame Rate	60 Hz (EIA170 progressive scan) 50 Hz (CCIR progressive scan)
Scan Mode	Continuous or triggered

¹ $\lambda = 1.55 \mu\text{m}$, exposure time = 16.3 ms, no lens, corrections off, digital gain 1X

²The fraction of pixels with responsivity deviation within +/-25% from the mean