

# SU320MX-1.7RT

## High Sensitivity InGaAs

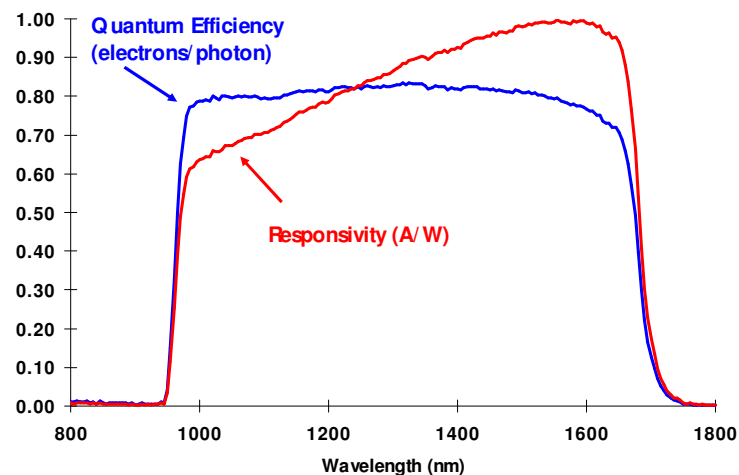
### NIR MiniCamera



The compact SU320MX-1.7RT InGaAs high-resolution video camera provides real-time imaging in the near (NIR) and short-wave (SWIR) infrared wavelength spectrum with the highest sensitivity available with a room temperature imager.

### APPLICATIONS

- Low-light-level imaging
- Emission microscopy
- Passive covert surveillance
- Imaging spectroscopy
- Astronomy
- Thermal imaging through glass optics



The SU320MX-1.7RT Indium Gallium Arsenide high sensitivity near infrared camera is a compact and versatile imaging tool. The high sensitivity allows superior imaging in low light level environments. Like all SUI™ high performance InGaAs cameras, the SU320MX operates the FPA at room temperature, while featuring anti-bloom design, 100% fill factor, and on-board, factory-set non-uniformity corrections (NUCs). Composite video images can be seen on EIA170 or CCIR compatible monitors. The 12 bit digital data is available simultaneously in an EIA422 format. The SU320MX-1.7RT is compatible with most commercially available video and digital frame grabber boards.

**SUI knows IR™**

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### FEATURES

- 320 x 240 format with 40  $\mu\text{m}$  square pixels
- Highest sensitivity in the 0.9  $\mu\text{m}$  to 1.7  $\mu\text{m}$  short-wave infrared spectrum
- Compact size < 290  $\text{cm}^3$
- Low power, < 1.7 W
- All solid state InGaAs imager
- Digital & analog outputs
- Programmable exposure times
- Room temperature operation
- Accepts standard C-mount lenses
- AGC version with gamma option offers daylight to nightglow operation

## 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 $\mu\text{m}$
Lens Mount	C-mount

## ENVIRONMENTAL & POWER

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

## ELECTRICAL SPECIFICATIONS

Optical Fill Factor	100%
Spectral Response	0.9 $\mu\text{m}$ to 1.7 $\mu\text{m}$
Quantum Efficiency	> 65 % from 1 $\mu\text{m}$ to 1.6 $\mu\text{m}$
Mean Detectivity, $D^*$ <sup>1</sup>	> $4 \times 10^{13}$ $\text{cm}^2/\text{Hz/W}$
Noise Equivalent Irradiance <sup>1</sup>	< $3 \times 10^8$ photons/cm <sup>2</sup> ·s
Noise (RMS)	< 50 electrons
Full Well (Typical)	> $5 \times 10^4$ electrons
True Dynamic Range	> 1000:1
Operability <sup>2</sup>	> 99%
Exposure Times	127 $\mu\text{s}$ to 16.27 ms/16.38 ms (EIA170/CCIR) in 8 steps
Image Correction	2-point (offset and gain) pixel by pixel user selectable
Digital Output Format	12 bit EIA422 format (corrected and uncorrected data is available)
Analog Output Format	Interlaced or progressive scan composite for video monitors
Frame Rate	30 Hz (EIA170 interlaced), 60Hz (EIA170 progressive scan) 25 Hz (CCIR interlaced), 50Hz (CCIR progressive scan)
Scan Mode	Continuous or triggered

<sup>1</sup>  $\lambda = 1.55 \mu\text{m}$ , exposure time = 16.3 ms, no lens, digital gain of 1X, with both AGC and corrections off,

<sup>2</sup> The fraction of pixels with responsivity deviation between +/-25% from the mean