

SU320KTS-1.7RT SU320KTSVis-1.7RT InGaAs SWIR Camera



These compact InGaAs snapshot video cameras feature capture of images from pulsed events or moving objects within one frame. The **SU320KTS-1.7RT** provides high response from 0.9 μm to 1.7 μm and the **SU320KTSVis-1.7RT** extends the response into the visible wavelengths, running from 0.4 μm to 1.7 μm . These cameras are easy to use due to Automatic Gain Control (AGC), image enhancement and built-in non-uniformity corrections (NUCs). The camera configurations include 8 corrected modes with variable integration time and constant gain for pulsed work over a range of ambient light levels; and 8 corrected modes with variable gain at 16 ms integration time to provide the user with accurate steps of 2 over a wide dynamic range.

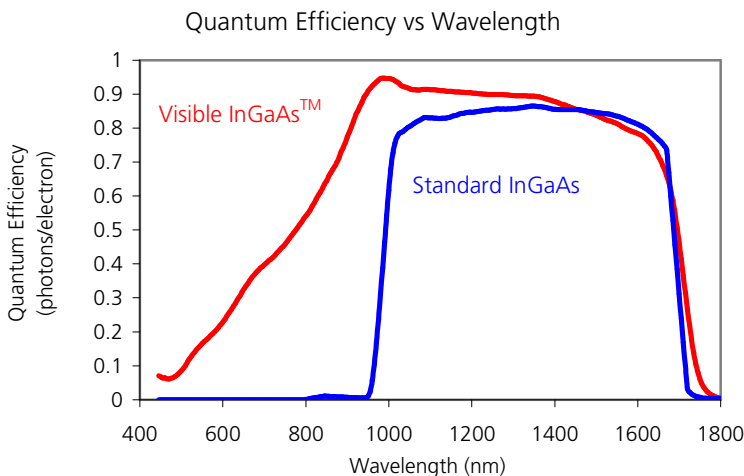


APPLICATIONS

- Pulsed laser beam profiling
- Machine vision of moving objects
- Thermal imaging > 150°C through glass optics
- Hyperspectral imaging

FEATURES

- Standard InGaAs: 0.9 μm to 1.7 μm
- Visible-InGaAs™: 0.4 μm to 1.7 μm
- All solid state InGaAs or Visible-InGaAs FPA with snapshot exposure ROIC
- 320 x 256 pixel format, 25 μm pitch
- Enclosed body < 9.5 in³
- OEM version < 3.94 in³
- Low power, < 2.5 W at 20°C
- On-board non-uniformity corrections
- Simultaneous Camera Link® digital & EIA-170 analog outputs
- Room temperature FPA operation
- Improved AGC algorithms with adjustable thresholds
- Adjustable automatic contrast enhancement
- User programmable startup configuration
- Includes a C-mount lens adaptor
- Enclosed model includes 25 mm F/1.4 lens



SUI knows IR™

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MECHANICAL SPECIFICATIONS

Model:	Enclosed	OEM
Module (no lens) Width x Height x Depth ¹	2.1 in. x 2.1 in. x 2.55 in. 53 mm x 53 mm x 65 mm	1.64 in. x 1.5 in. x 1.60 in. 42 mm x 38 mm x 41 mm
Weight (no lens)	< 270 g	< 90 g
Lens Mount	C-mount adapter in M42x1 mount	C-mount bracket
Included Lens	f/1.4, 25 mm, 18° FOV width, C-mount	none
Camera Link Connector	3M SDR26 Connector	none
I/O Connector	3M SDR14 Connector	none
Interface Connector	Not applicable	Samtec QSH-030-01-L-D-A
Pixel Pitch	25 μm	
Focal Plane Array Format	320 x 256 pixels	
Active Area	8 mm x 6.4 mm x 10.2 mm diagonal	

¹Depth Includes Cable Mount Hardware for Enclosed Version

ENVIRONMENTAL & POWER SPECIFICATIONS

Operating Case Temperature	-10°C to 40°C
Storage Temperature	-10°C to 60°C
Humidity	Non-condensing
Power Requirements: AC Adapter Supplied DC Voltage Typical Power	100-240 VAC, 47-63 Hz +9-16 V 2.2.W at 20°C ambient, <4.5 W @ 40°C

ELECTRICAL SPECIFICATIONS

	Variable integration time modes	Variable gain, fixed integration time
Exposure Times	120 μs to 14.93 ms in 8 steps	16.57 ms
Gain (typical)	180 e ⁻ /count	180 to 16000 e ⁻ /count in 8 steps
Full Well (typical)	700k e ⁻	700k to 45M e ⁻ in 8 steps
Mean Detectivity, D* ¹	> 5 x 10 ¹² cm ² √Hz/W	
Noise (RMS) ¹	< 300 e ⁻	
Noise Equivalent Irradiance ¹	< 3.5 x 10 ⁹ photons/cm ² ·s	
True Dynamic Range	> 2500:1	
Spectral Response: InGaAs	0.9 to 1.7 μm	
Quantum Efficiency: InGaAs	> 65 % from 1 μm to 1.6 μm	
Spectral Response: Visible InGaAs™	0.4 μm to 1.7 μm	
Quantum Efficiency: Visible InGaAs	> 5% QE at 0.4 μm > 45% QE at 0.8 μm > 70% QE from 1 to 1.6 μm	
Optical Fill Factor	> 100%	
Operability ²	> 99%	
Image Correction	2-point (offset and gain) pixel by pixel, user selectable	
Digital Output Format	12 bit Camera Link® (SDR connector on enclosed version, Samtec QSH series connector on OEM)	
Analog Output Format	Buffered EIA170 compatible video, 60 fields/s, independent 320 x 256 frame readout per field	
Digital Output Frame Rate	60 fps	
Scan Mode	Continuous or 3 externally triggered modes	

¹λ = 1.55 μm, exposure time = 16.57 ms, no lens, digital gain x1 with AGC and corrections off, measured in operational setting of the camera with the smallest FPA gain.

² The fraction of pixels with responsivity deviation less than +/-35% from the mean