

SU640KTS-1.7RT

Compact Large Format InGaAs Camera



Goodrich compact InGaAs snapshot 640 x 512 pixel video cameras bring high resolution InGaAs imaging performance to sorting, inspection, spectral imaging, and machine vision applications. The **SU640KTS-1.7RT** features high response from 0.9 μm to 1.7 μm at 30 frames per second. These cameras are easy-to-use due to built-in non-uniformity corrections (NUCs), Automatic Gain Control (AGC), and basic image enhancement. The camera outputs both EIA170 analog video, and Camera Link[®] compatible 12-bit digital video, with extensive command and control available over the Camera Link interface or via a separate EIA232 interface. This model camera meets CE and FCC requirements for conducted and radiated emissions.

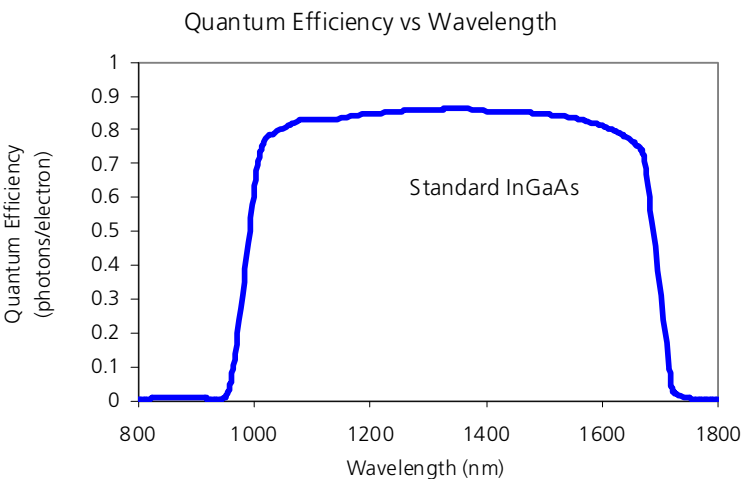


APPLICATIONS

- Silicon ingot, wafer or integrated circuit microscopy
- Pulsed or CW laser beam profiling
- Machine vision of moving objects
- Thermal imaging > 150°C through glass windows
- Hyper- and multi-spectral imaging
- Full-field Optical Coherence Tomography at 1.04, 1.31 or 1.55 μm

FEATURES

- Standard InGaAs: 0.9 μm to 1.7 μm
- All solid state InGaAs or Visible-InGaAs[™] FPA with snapshot exposure ROIC
- 640 x 512 pixel array with 25 μm pitch
- Enclosed body < 184 cm³ and < 11.25 in³
- Low power < 2.5 W at 20 °C, 9-16 V
- On-board non-uniformity corrections
- Simultaneous Camera Link[®] digital & EIA170 analog outputs
- Room temperature stabilized FPA operation
- AGC algorithms with user adjustable thresholds
- Adjustable automatic contrast enhancement
- User-programmable startup configuration
- Includes 25 mm F/1.4 lens
- Meets FCC and CE requirements for radiated and conducted emissions, for immunity from such emissions and for ESD resistance



SUI knows IR[™]

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MECHANICAL SPECIFICATIONS

Model:	Enclosed
Module (no lens) Width x Height x Depth ¹	53 mm x 53 mm x 65 mm 2.1 in. x 2.1 in. x 2.55 in.
Weight (no lens)	< 270 g
Lens Mount	M42 x 1 mm mount, FD adaptor
Included Lens	25 mm f/1.4 C-mount
Camera Link Connector	3M SDR26 Connector
I/O Connector	3M SDR14 Connector
Interface Connector	Not applicable
Pixel Pitch	25 μ m
Focal Plane Array Format	640 x 512 pixels
Active Area	16 mm x 12.8 mm x 20.5 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

OPTO-ELECTRONIC SPECIFICATIONS

	Variable integration time modes	Variable gain, fixed integration time
Exposure Times	240 μ s to 33.17 ms in 6 steps	33.22 ms
Gain (typical)	170 e ⁻ /count	170 to 27,300 e ⁻ /count in 6 steps
Full Well (typical)	0.7 Me ⁻	0.7 Me ⁻ to 112 Me ⁻ in 6 steps
Mean Detectivity, D* ⁻¹ (typical)	7.6 x 10 ¹² cm \sqrt Hz/W	7.6 x 10 ¹² cm \sqrt Hz/W
Noise (RMS) ¹ (typical)	155 e ⁻	150 to 25,000 e ⁻
Noise Equivalent Irradiance (typ.) ¹	9 x 10 ⁸ to 2.25 x 10 ¹¹ photons/cm ² -s in 6 steps	9 x 10 ⁸ to 1.5 x 10 ¹¹ photons/cm ² -s in 6 steps
True Dynamic Range	> 2000:1	
Spectral Response: InGaAs	0.9 to 1.7 μ m	
Quantum Efficiency: InGaAs	> 65 % from 1 μ m to 1.6 μ m	
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 [®] via SDR connector	
Analog Output Format	Buffered EIA170 compatible interlaced video via SMA connector	
Digital Output Frame Rate	30 fps	
Scan Mode	Continuous or externally triggered with preset exposure, gated preset exposure or pulse-width controlled variable exposure	
CE compliance to standards	EN 61326-1:2006, Class A, EN 61000-3-3:2006 and EN 61000-3-3:1995 A1:2001, A2:2005	

¹ λ = 1.55 μ m, exposure time = 33.2 ms, no lens, digital gain x1 with AGC, enhancement and corrections off, using a nominal QE value of 80%.

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