



320KTSX-1.7RT

High Sensitivity InGaAs SWIR Camera

The compact SU320KTSX-1.7RT is an InGaAs video camera featuring high-sensitivity and wide dynamic range. It provides real-time night-glow to daylight imaging in the Short Wave Infrared (SWIR) wavelength spectrum for passive surveillance and use with lasers. The camera delivers clear video at every lighting level from partial starlight to direct sunlight due to on-board Automatic Gain Control (AGC), image enhancement and built-in non-uniformity corrections (NUCs). Simultaneous Camera Link® digital output provides high quality 12-bit images for image processing or transmission. Low-power and light-weight with compact size enables easy integration into surveillance systems, whether hand-held, mobile or aerial.

APPLICATIONS

- Low-light level imaging
- Covert surveillance with passive 24/7 operation
- Emission microscopy
- Imaging spectroscopy
- Astronomy

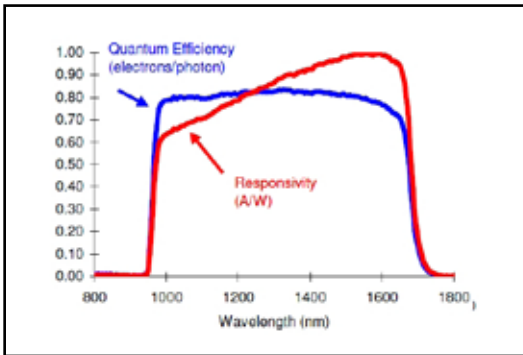
FEATURES

- Highest sensitivity available in 0.9 to 1.7 μm spectrum; NIR/SWIR, from 0.7 to 1.7 μm
- Images from partial starlight to direct sun illumination
- 320 x 240 pixel format, 25 μm pitch
- Compact OEM module size < 3.94 in³
- Enclosed module size < 11.3 in³
- Low power, < 2.5 W at 20 °C
- All solid-state InGaAs imager
- On-board non-uniformity corrections
- Simultaneous digital and analog outputs
- Room temperature FPA operation
- Includes a threaded 42 mm lens mount
- OEM version for easy integration into UAV, handheld or robotic systems
- Improved AGC algorithms with adjustable thresholds
- Environmental stress screening
- Adjustable contrast enhancement mode

MECHANICAL SPECIFICATIONS

Model:	Enclosed	OEM
Module dimensions (no lens)	53 x 53 x 65 mm	1.64 x 1.50 x 1.60 inches
Width x Height x Depth ¹	2.1 x 2.1 x 2.55 inches	42 x 38 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, 25mm, 18° FOV width, C-mount	None
Camera Link Connector	3M SDR26 Connector	None
I/O Connector	3M SDR14 Connector	None
Interface Connector	NA	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	

¹ Depth Includes Cable Mount Hardware for Enclosed Version



ELECTRICAL SPECIFICATIONS

Optical Fill Factor	100 %
Spectral Response	Standard, 0.9 µm to 1.7 µm
Quantum Efficiency	Standard, > 65 % from 1 µm to 1.6 µm
Mean Detectivity, D*¹	> 1.0 x 10 ¹³ cm ² /Hz/W
Noise Equivalent Irradiance¹	< 1.4 x 10 ⁹ photons/cm ² · s
Noise (RMS)¹	< 85 electrons (typical)
Full Well (typical)	70k electrons
True Dynamic Range¹	> 800: 1
Operability²	> 99%
Exposure Times	60 µs to 16.57 ms in 16 steps
Image Correction	2-point (offset and gain) pixel by pixel, user selectable
Digital Output Format	12 bit CameraLink® (optional for OEM version)
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 4 externally triggered modes

¹ λ = 1.55 µm, exposure time = 16.57 ms, highest gain OPR setting, no lens, with gain and offset corrections off.

² The fraction of pixels with responsivity deviation between ±35 % from the mean.

ENVIRONMENTAL & POWER SPECIFICATIONS

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