Tau SWIR

Extreme Low-Light Imaging

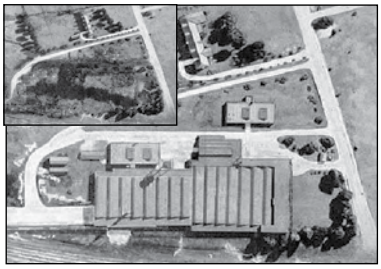
The Tau SWIR joins FLIR's Tau family of best-in-class miniature camera cores. Designed for a variety of OEM applications – including electro-optical payloads, weapon sights, night vision, and UAV/UGV sensor sockets – Tau SWIR delivers superior shortwave infrared imaging performance in the 900 nm - 1.7 µm waveband (extended spectral range also available). Our team of designers focused on providing outstanding imaging performance, reducing the camera's size and weight, and lowering power consumption; and they delivered.

Tau SWIR incorporates a high-resolution (640 × 512) Indium Gallium Arsenide (InGaAs) 15-micron pixel-pitch focal plane array that features variable exposure control, high frame rates (in sub-windowing mode), nearly zero image lag, and high quantum efficiency. The camera delivers exceptional image quality in all light levels and features advanced automatic gain control and non-uniformity correction.

Weighing only 4.5 oz and measuring only 1.5" × 1.5" × 1.9" Tau SWIR is ideal for small UAV/UGV and battery-powered viewers. The camera features Camera Link and analog video outputs, as well as an SDK to facilitate successful integration.

As the world's largest commercial infrared camera supplier, FLIR delivers the quality and reliability that you demand at the quantity and pricing that you need.

Features	Benefits
Extremely Low Noise	Night glow compatible
500 ns to 500 ms Gating	Near-field backscatter rejection
15 µm Pixels	Compatible with legacy optics
<1% Image Lag Frame-to-Frame	Eliminates smear
Low Power	Smaller batteries and longer run times
Compact Size and Lightweight	Fits into a wide range of systems
>1,400 Hz Frame Rate (sub window)	Works in specialized applications
Affordable SWIR Solution	Meet your cost targets in high volume products
Digital and Analog Video Outputs	Flexible integration
Custom Engineering Services Available	FLIR wants to be your SWIR technology partner



Detect Camouflage

See through many paints to visualize hidden details

Cut through haze for improved long range image quality

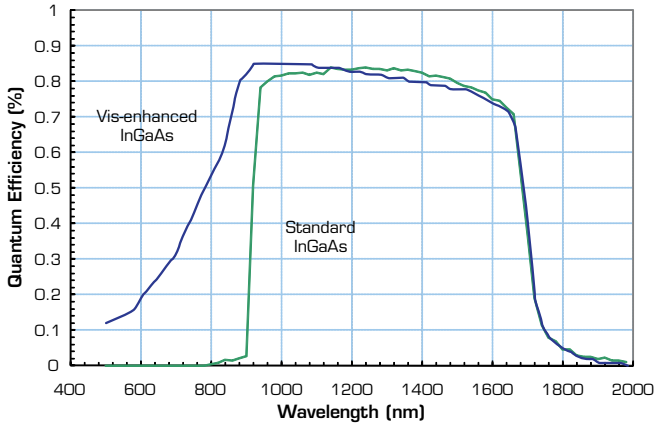
Passive night vision

Contact FLIR at 719.598.6006 to speak with a low-light imaging expert about your requirements.

Specifications

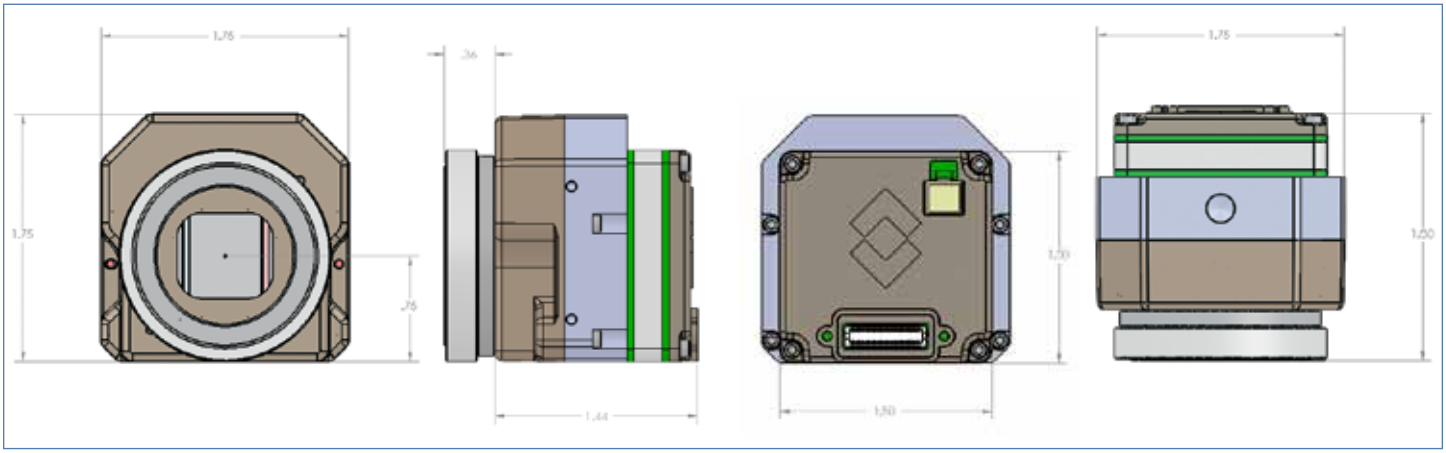
Camera	Tau SWIR
Sensor Type	InGaAs
Resolution	640 x 480 (analog); 640 x 512 (digital)
Pixel Pitch	15 microns
Optical Fill Factor	100%
Spectral Response	900 nm to 1700 nm or 700 nm to 1700 nm (see plot)
Quantum Efficiency	>80% from 1 to 1.6 µm
Noise (rms)	<50e @ 20°C
Full Well	30,000 (HG); 400,000 (LG)* electrons
True Dynamic Range	70 dB in LG or HG
Operability	>99.5%
Exposure Times	4 µs to 95% of frame time
Image Correction	2-point (offset and gain) pixel by pixel; user selectable
Image Lag	<1% image lag frame-to-frame
Digital Output Format	14-bit Camera Link or LVDS
Analog Output	NTSC Compliant
Digital Output Frame Rate	30 Hz
High Speed Sub Window Mode	1,400 fps (64 x 64 window)
Mechanical/Environmental	
Weight	130 g with M24 lens mount
Dimensions	38 x 38 x 48.25 mm
Lens Mount	C-mount/M24/M42
Operating Case Temperature	-20°C to +55°C (-40°C to +71°C w/degraded performance)
Storage Temperature	-50°C to +85°C
Humidity Non-Condensing	95%
Power Requirements	
DC Voltage	+12 VDC
Typical Power @ Case Temp.	<4 W

*HG=High Gain
LG=Low Gain



typical

Applications
Night Vision
Emission Microscopy
Imaging Spectroscopy
Laser Beam Analysis
Hyper-Spectral Imaging
Range Phenomenology
Non-destructive Testing



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