



# ZephIR™ 2.5

## INFRARED CAMERA



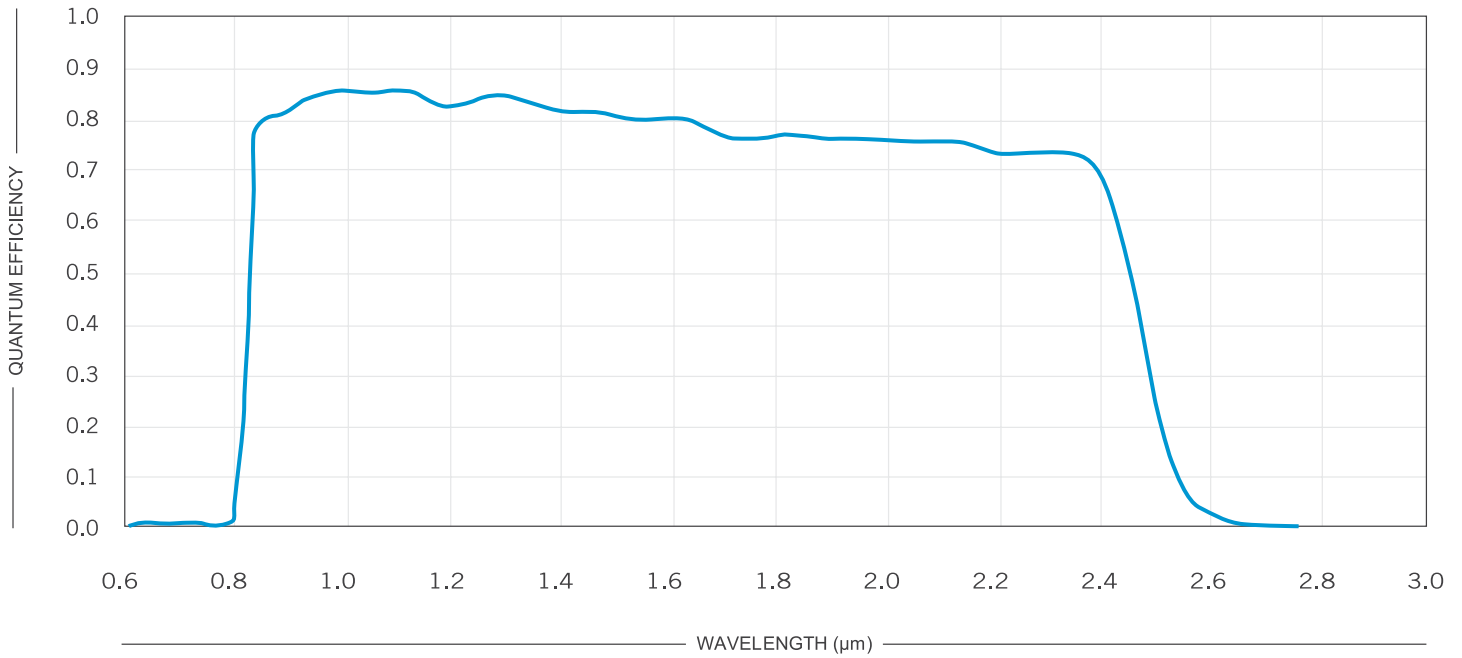
The ZephIR 2.5 is a fully integrated HgCdTe camera with a 320 x 256 pixels focal plane array (FPA) sensitive from 850 to 2500 nm. The camera provides low noise detection and easy operation. This is in large part due to a four stages thermoelectric cooler (TEC) which can maintain operating temperature as low as -80 °C. The TEC's forced air heat dissipation requires none of the maintenance of a water or liquid nitrogen chilled unit and does not suffer from the limited lifetime of Stirling mechanical coolers.

The camera's hardware coded region-of-interest (ROI) enables the user to choose between a full-frame rate of 340 frames per second (fps) and a windowed rate of up to 4000 fps. Users can also choose to use Photon etc's PHYSpec camera control software or develop their own using an extensive software development kit (SDK).

TECHNICAL SPECIFICATIONS		
Sensor	MCT FPA	
Sensor Format	320 x 256	
Pixel size	30 µm	
Spectral range	850 - 2500 nm	
Peak Quantum Efficiency	85%	
Typical operability	> 99%	
Cooling Temperature @ 20°C ambient	-80 °C	
Cooling method	TEC + forced air	
Typical Dark Current	20 Mē/px/s	
Typical Gain setting (ē/ADU)	High	Low
Typical readout noise (ē)	10.3	216
Typical full well capacity (kē)	150	980
Typical full well capacity (kē)	160	3300
Readout modes	STD IWR	
Frame Rate	340	
ROI Frame Rate	Up to 4000	
Integration time range	from 1 µs to full well capacity	
Digitization	14 bits	
Image Format	16 bits HDF5, FITS and TIFF	
Software	USB 3.0 and CameraLink™	
Computer interface	Trigger IN/OUT	
External control	PHYSpec™ control and analysis software, SDK (C++, Python)	
Ambient temperature range	10 °C to 35 °C	
Power Supply	12V DC	
Dimensions	169 mm x 130 mm x 97 mm	
Weight	2.9 kg	
Certification	 	

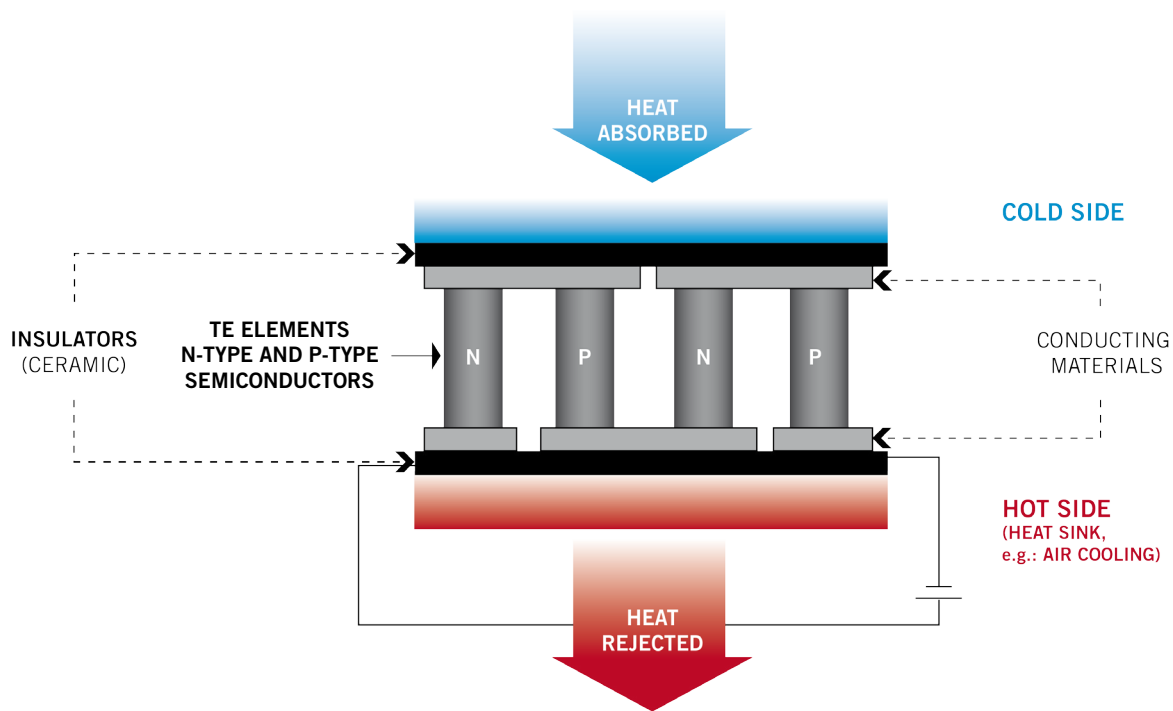
### MAIN ADVANTAGES OF TEC + AIR SYSTEM

- » Compact
- » No maintenance
- » Highly reliable
- » Low dark current
- » Long lifetime
- » Low readout noise



**ZephIR 2.5**

Quantum efficiency presented at -80 °C



Schematic of a thermoelectric device where the Peltier effect is used to generate heat flow between two materials.



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