

ZEPHIR 2.5

INFRARED CAMERA



Zephir™ 2.5 is Photon etc.'s scientific-grade short-wave infrared HgCdTe (MCT) camera, boasting a high sensitivity from 0.85 to 2.5 μm . A four-stage TE deep cooler, forced air-cooling at -80°C , combined with an astonishing quantum efficiency up to 85% provide unrivaled low-noise levels at a 340 frame-per-second rate. Either it is for borehole samples analysis, pipeline gas detection, astronomy, space observation or material sorting, Zephir™ 2.5 extends the boundaries of laboratory and industrial imaging.

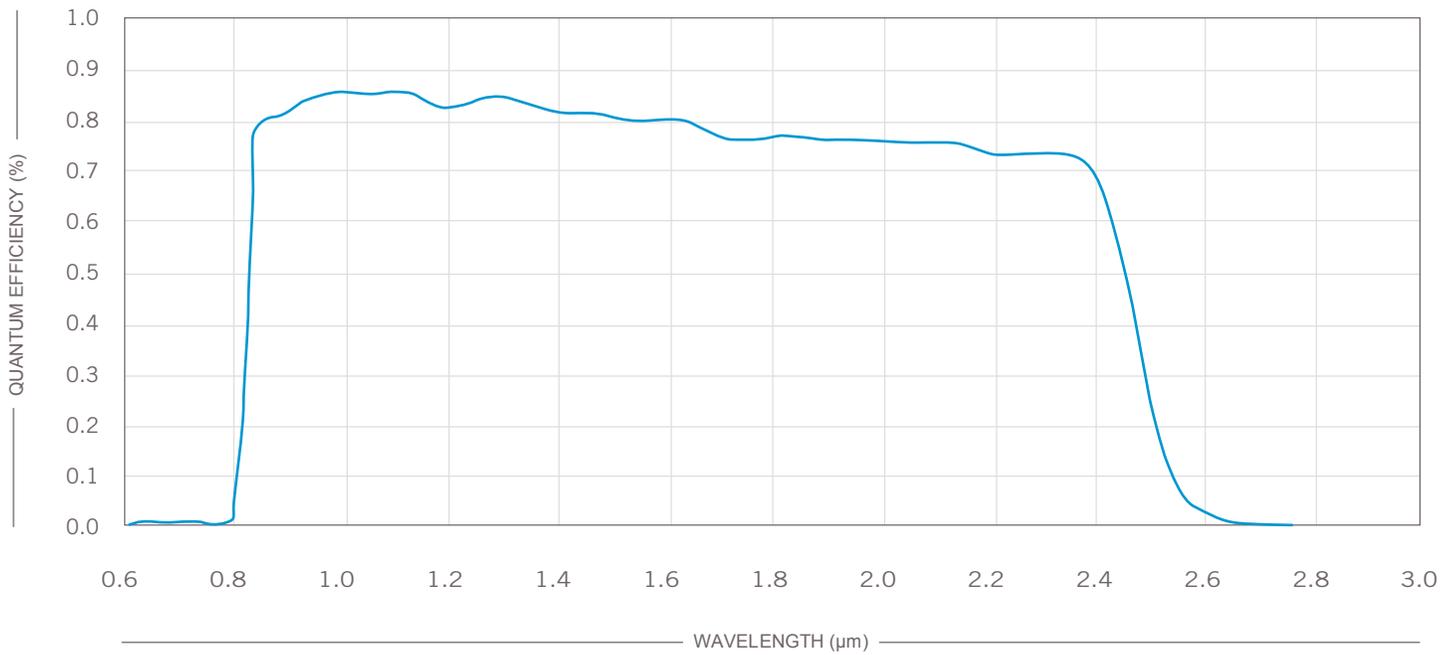
* Export licence may be required for this item.

TECHNICAL SPECIFICATIONS

Focal Plane Array (FPA)	HgCdTe	
FPA size	320 x 256	
Pixel size	30 μm	
Spectral range	0.85 - 2.5 μm	
Dark Current	< 30 - Typ. $\sim 20 \text{ M}\bar{\epsilon}/\text{px/s/p/s}$ (measured with a target at 21°C and sensor at -80°C)	
Gain Setting	High Gain 10.30 $\bar{\epsilon}/\text{ADU}$	Low Gain 216 $\bar{\epsilon}/\text{ADU}$
Readout Noise	150 $\bar{\epsilon}$	980 $\bar{\epsilon}$
Full Well Capacity	160 K $\bar{\epsilon}$	3.3 M $\bar{\epsilon}$
Readout Modes	ITR	
Digitization	14 bits	
Frame Rate (fps) CameraLink	Up to 340 full frame 4500 for a (32x32) px ROI	
Peak responsivity	1.8 A/W @ 2450 nm	
Quantum Efficiency	Up to 85%	
Operability (typical)	> 98.5% - up to 99.8%	
Integration Time Range	1 μs to 100 ms (low gain)	
Cooling	TEC 4 stages, forced air	
FPA Operating Temperature	-80°C	
Cool Down Time	10 minutes	
Ambient Temperature Range	10°C to 35°C	
Cold Shield	f#/1.4	
Software	PHySpec™ control and analysis software included	
Computer Interface	CameraLink™ or USB 3.0	
External Control	On demand	
Power Supply Requirement	12 VDC @ 5A	
Physical Dimensions	169 x 130 x 97.25 mm	
Weight	2.6 kg	
Certification	CE	

MAIN ADVANTAGES OF TE COOLED AIR SYSTEM

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



● -65°C

SWIR HgCdTe FPA Test Structure 1 x 1 mm w/o ARC

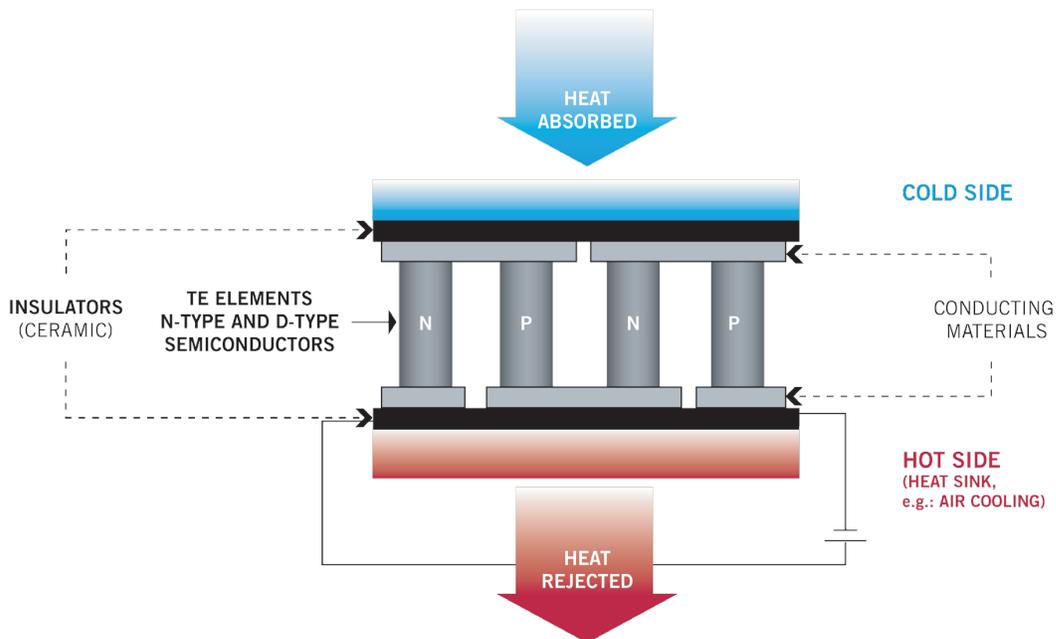


FIG. 1. Schematic of a thermoelectric device where the Peltier effect is used to generate heat flow between two materials.