Photon etc
A spectrum of solutions

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Alizé 1.7™
INFRARED CAMERA

The Alizé 1.7 is a high-end, scientific grade, 640 x 512 pixels resolution, InGaAs camera that marries performance with reliability. It has low noise levels, high efficiency, and a rapid frame rate compatible with an external trigger. This is made possible by a combination of state-of-the-art control electronics and a four stage thermoelectric cooler (TEC) which can maintain an operating temperature as low as -50 °C. The TEC, in turn, uses forced air cooling which requires none of the maintenance of a water or liquid nitrogen cooled unit.

The Alizé 1.7 is amongst the most cost-effective high-end InGaAs cameras on the market.

TECHNICAL SPECIFICATIONS

	Alizé 1.7x		Alizé 1.7s		
Focal plane array (FPA)	InGaAs		InGaAs		
FPA size (px)	640 x 512		640 x 512		
Pixel size (µm)	15		15		
Spectral range (QE > 10%)	0.45 - 1.70 µm at 25 °C		0.95 - 1.70 µm at 25 °C 0.91 - 1.63 µm at -50 °C		
FPA operating temperature	-50 °C		-50 °C		
Dark Current (sensor at -50 °C)	Target at 21 °C: < 450 (Typ. ~300) ē/px/s		Target at 21 °C: < 600 (Typ. ~385) ē/px/s		
	High	Low	High	Med	Low
Typical gain setting (ē/adu)	2.67	47.5	2.2	7.4	89
Typical readout noise (ē)	22	135	35	75	315
Typical full well capacity (kē)	8.5	230	27	110	1400
Readout modes	CDS	ITR	CDS ITR, CDS IWR, IMRO IWR		
Frame rate in CameraLink™ (fps)	105	210	Up to 240 full frame 1900 for a 128x128 ROI		
Frame rate in USB 3.0 (fps)	110	220	Up to 250 full frame 1900 for a 128x128 ROI		
Integration time range	1 µs - 16 s	100 µs - 14 m	1 µs - 70 s	1 µs - 4 m	1 µs - 15 m
Digitization (bits)	13		14		
Peak responsivity	1.1 A/W at 1660 nm		1.0 A/W at 1550 nm		
Quantum efficiency	> 70% 0.95 - 1.67 µm at 25 °C > 70% 0.89 - 1.62 µm at -50 °C		> 70% 1.00 - 1.65 µm at 25 °C > 70% 0.95 - 1.56 µm at -50 °C		
Typical operability	99.9%		> 99.5%		
Cooling	TEC 4 stages, forced air		TEC 4 stages, forced air		
Cooldown time	< 10 minutes		< 10 minutes		
Ambient temperature range	10 °C to 35 °C		10 °C to 35 °C		
Cold shield acceptance	F/1.4		F/1.4		
Software	PHySpec™ control and analysis for Windows10 - 64-bits, SDK (C++, Python)				
Computer interface	CameraLink™ or USB 3.0		CameraLink™ or USB 3.0		
External control	Trigger IN / OUT		Trigger IN / OUT		
Power consumption on 12VDC (W)	39 (typ. 23)		Max. 58 (typ. steady-state 34)		
Dimensions	169 mm x 130 mm x 97 mm		169 mm x 130 mm x 97 mm		
Weight	2.9 kg		2.9 kg		
Certification	CE, ETL Intertek		CE, ETL Intertek		

MAIN ADVANTAGES OF TE COOLED AIR SYSTEM:

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

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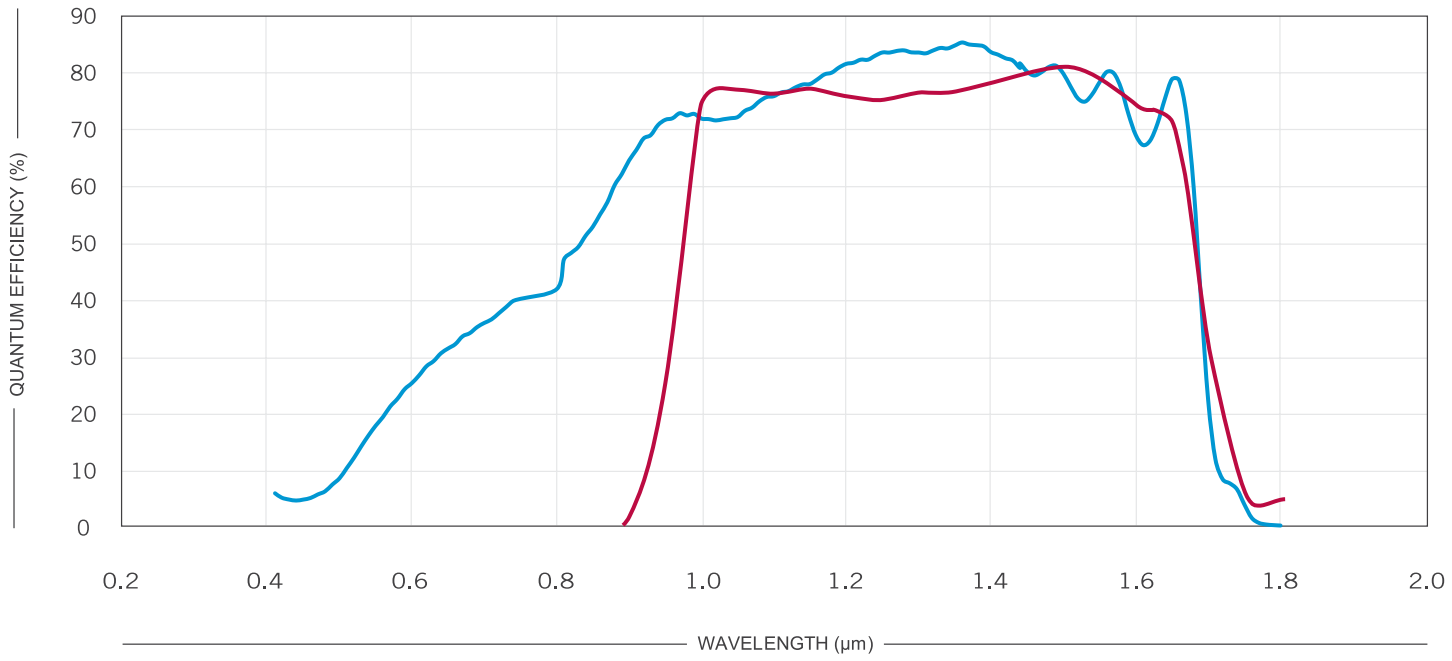
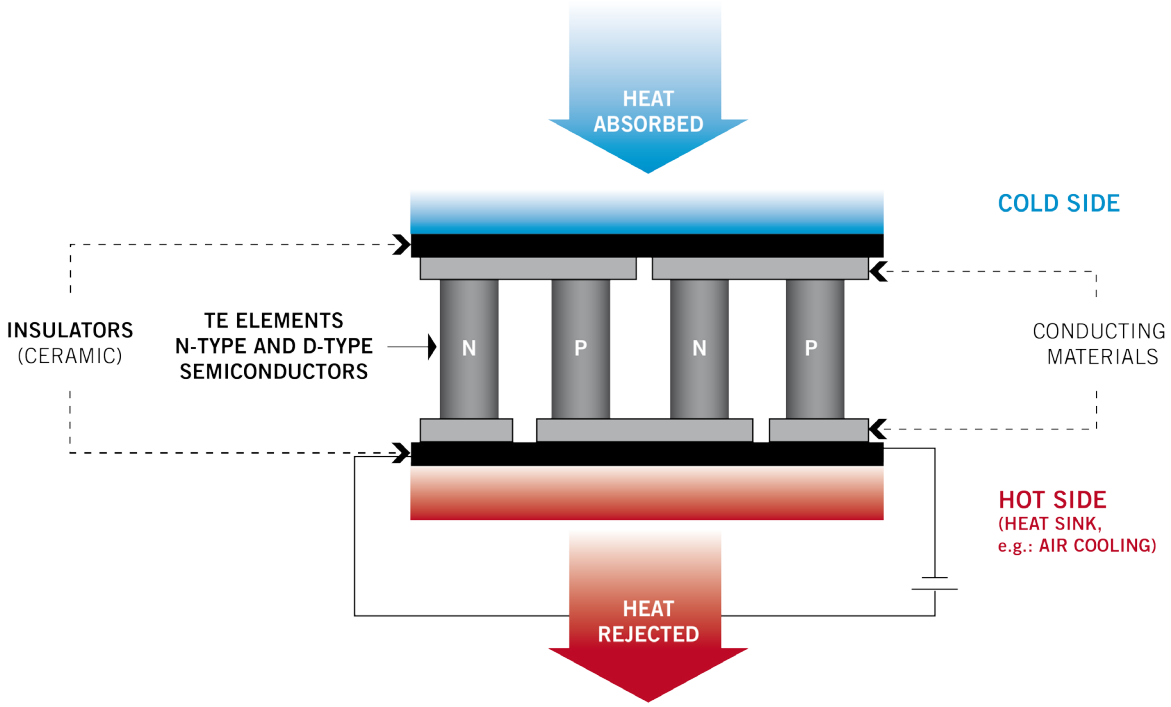


Quantum efficiency presented at 25°C.
The cut-off wavelength shifts towards the blue by ~ 7nm for every 10 °C of cooling.



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