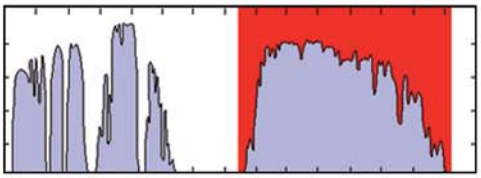
HiPIR-1280L - MCT LWIR 1280 x 1024 15µm PITCH IDCA

HIGHEST PERFORMANCE HD LWIR-MODULES



Highest Performance LWIR Imaging

- **Rotorcraft Pilotage Sights**
- **Airborne Payloads**
- **High Performance Gunner and Commander Sights**

Focusing on ultimate high-definition IR-imaging AIM offers MCT 1280 x 1024 megapixel arrays with 15 µm pitch for the MWIR and LWIR spectral band. The modules are well suited for airborne and ground based applications like rotorcraft pilotage sights or high-performance thermal gunner and commander sights.

The LWIR module provides short integration times of typically 300µs with F/2 at half-well fill condition resulting in sharp imaging without blurring effects in highly dynamic scenes. The thermal resolution given by the NETD is approx. 30mK.

Depending on whether minimum vibration output and maximum lifetime are key requirements or compactness and low power consumption, the detectors are available in optimized configurations with AIM´s new split linear coolers or with different integral rotary coolers. A dedicated electronics card set provides digital data output and easy system interfacing.

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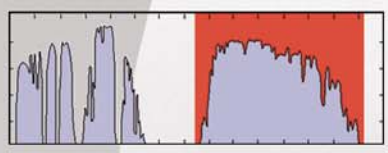
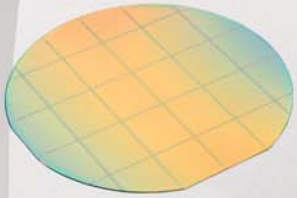


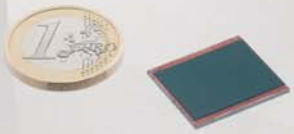
IR Sensor

Material	HgCdTe - Cadmium Mercury Telluride
Format	1280 x 1024
Pixel pitch	15µm x 15µm
Detector spectral response	7.6 - 9µm



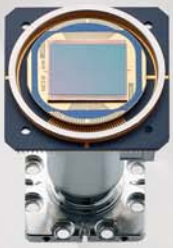
ROIC

Technology	Si - CMOS
Input	Direct charge injection
Operating mode	Snapshot
Read out modes	selectable ITR / IWR
Windowing	programmable (any window in steps of 8 columns and 1 row)
Charge handling capacity	~ 5.5 Me$^-$ (IWR) ~ 6.0 Me$^-$ (ITR)



Command & Control Electronics

Type	CCE8K-small
Output Video	CL LVDS 16bit (14bit ADC)
Input supply / control / synchronization	5VDC / CL LVDS, UART LVTTL / Internal, external frame sync
Power consumption	1.8W
Data rate	80MHz
Full frame rate	50Hz @ CL base configuration, others on request



Dewar / Cooler

Cooler	**SX095**	**K543**
Cooler type	Split Linear	Integral Rotary
Cooler electronics	external digital DCE100	internal analog
FPA operating temperature	70K	70K
Cool down time*	6min	5min
Cooler power consumption DC*	22W	15W
MTTF cooler**	> 12,000h	> 10,000h
Cold shield	F/2.05 standard, others on request	
Total weight IDCA	1.2kg	1.1kg

* at ambient room temperature
** will depend on usage profile

Performance

NETD (300K; half well)	30mK ***
IETD	< 1.0 x NETD
Array operability	> 99.0%

*** (F/2.05; tint ~ 0.3ms, ITR)

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