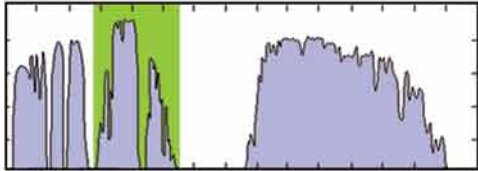


HiPIR-640M - MCT MWIR 640 x 512 15 μ m PITCH IDCA

HIGH PERFORMANCE MWIR-MODULES



Focusing on excellent E/O performance with minimum size, weight and power, AIM manufactures full TV format HiPIR-640M modules with 15 μ m pitch providing fast full frame rates up to 120Hz. State of the art MCT technology allows series production of MWIR detectors operating at temperatures exceeding 120K without any need to sacrifice the 5 μ m cut-off wavelength providing slow F-numbers and short integration times.



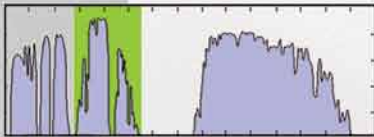
Depending on whether minimum vibration output and maximum lifetime are key requirements or compactness and low power consumption, the detectors are available in optimized configurations with AIM's new split linear coolers or with different integral rotary coolers. For more compactness paired with inaudible and low power operation, HiPIR-640M is available at high operating temperature with AIM's new single piston SX030 split linear cooler.

A dedicated electronics card set optionally provides digital output including sophisticated scene based non-uniformity correction and is designed to withstand even harsh environments.



HiPIR-640M - MCT MWIR 640 x 512 15µm PITCH IDCA

HIGH PERFORMANCE MWIR-MODULES



IR Sensor

Material	HgCdTe - Cadmium Mercury Telluride
Format	640 x 512
Pixel pitch	15µm x 15µm
Detector spectral response	3.4µm - 5µm

ROIC

Technology	Si - CMOS
Input	Direct charge injection
Operating mode	Snapshot
Read out modes	selectable ITR / IWR
Windowing	programmable (any window in steps of 4 columns and 1 row)
Charge handling capacity	~ 5 Me ⁻ (IWR) ~ 6 Me ⁻ (ITR)

Command & Control Electronics

Type	CCE4K-low power
Output Video	CL LVDS 16bit (16bit ADC)
Input supply / control / synchronization	5VDC / CL LVDS, UART LVTTTL / Internal, external sync
Power consumption	1.5W
Max. data rate	48MHz
Max. full frame rate	120Hz



Dewar / Cooler

Cooler	SX095	SX040	SX030	K508 / RM3	K561
Cooler type	Split linear	Split linear	Split linear	Integral Rotary	Integral Rotary
Cooler electronics	external digital DCE100	external digital DCE025	external digital DCE025	internal analog	external analog
FPA operating temperature	95K	95K	HOT 140K	95K	95K
Cool down time*	3min	4min	4min	4min	4min
Cooler power consumption DC*	11W	6W	3W	5W	3.5W
MTTF Cooler**	> 20,000h	> 20,000h	> 25,000h	> 10,000h	> 6,000h
Cold shield	F/4.0 standard, others on request				
Total weight IDCA	1.0kg	0.8kg	0.6kg	0.6kg	0.4kg

* at ambient room temperature

** will depend on usage profile

Performance

NETD (300K; half well)	18mK***	18mK***	20mK***	18mK***	18mK***
IETD	< 0.5 x NETD	< 0.5 x NETD	< 0.5 x NETD	< 0.5 x NETD	< 0.5 x NETD
Array operability	> 99.5%	> 99.5%	> 99.3%	> 99.5%	> 99.5%

*** (F/4.0; tint ~ 5ms, ITR)

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