

ActIR-1024 – MCT 1024 x 256 SWIR IDCA

HYPERSPECTRAL IMAGING IR-MODULE



SWIR 0.9 - 2.5 μ m state of the art detector for 24/7 operation.

The detector is optimized to provide high spatial and spectral resolution in hyper-spectral imaging applications.

An Integrated Detector Cooler Assembly with Pulse-Tube coldfinger driven by a flexure bearing compressor provides unsurpassed lifetime for remote sensing in spaceborne and military applications.

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IR-Sensor

Detector	HgCdTe - Cadmium Mercury Telluride
Format	1024 x 256
Pixel pitch	24µm spatial x 32µm spectral
FPA area	24.6 x 8.2mm ²
Spectral response	0.9-2.5µm
FPA operating temperature	150K typ.

ROIC

Modes	Snapshot operation in IWR (Integrated While Read) or ITR (Integrate Then Read)
Input stage	Capacitance Transimpedance Amplifier (CTIA)
Charge handling capacity	1,200,000 e ⁻ Low Gain 300,000 e ⁻ High Gain
Sub-frame-capability	Row deselection for individual lines (spectral channels)
Gain selection	possible for each individual line
Outputs	8
Max. output pixel rate	10MHz / output
Max. full frame rate	250Hz

Optical Interface / Coldshield

F-Number	F/3.0, down to F/1.8, adaption to system requirements
Distance FPA to optics	40mm typ., 15mm min., adaption to system requirements

Cooler Performance

Cooler type	SF100 Pulse Tube, other coolers available
Power during cool-down	50W max.
Power at 150K	30W max. at room ambient temperature and 28V
Input voltage	24-32V
MTTF	> 50,000h

Command / Control Electronics

Supply voltage	5V
Power consumption	7.5W
Communication	via RS-232
Data link	Camera link (video data only)
Video output channels	8, 14 bit
Frame sync	external or internal

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