

MARS LW

320 x 256 - 30 μm pitch - MCT

→ The reference LWIR staring array.



Mars LW, manufactured in large quantities, is the reference LWIR (8 - 10 μm) staring array.

Sofradir's MCT technology allows operations in LWIR waveband, the preferred solution for ground-based applications.

This high-performance IDCA takes full advantage of Sofradir's state of the art technologies.

ARRAY FEATURES

Format	320 x 256
Pixel pitch	30 μm x 30 μm
Detector spectral response	7.7 μm - 9.5 μm
Electrical interface	14 inputs / outputs (default mode: 4 outputs, Gain 1.320 x 256) + 2 pins for regulation
FPA Operating temperature	Up to 80 K

ROIC (READ-OUT INTEGRATED CIRCUIT)

Selection	Parallel and serial electrical interface
ROIC architecture	Snapshot operation, direct injection input circuit, Integrate Then Read mode
ROIC functionalities	Programmable integration time, anti-blooming
Windowing modes	320 x 256 / 320 x 240 / 256 x 256 or programmable
Charge handling capacity	36 10^6 e ⁻ (Gain 1); 14.8 10^6 e ⁻ (Gain 0)
Electrical dynamic range	2.75 V (Gain 1); 3 V (Gain 0)
Readout noise	1000 e ⁻
Singal outputs	1 or 4
Pixel output rate	Up to 6.6 MHz per output
Frame rate	Up to 320 Hz full frame rate

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TYPICAL (*) PERFORMANCES



NETD	19 mK (f/2, 36 10 ⁶ e ⁻ , 300 K, 50% well fill, 200 Hz)
Array operability	99.7%
Non uniformity (DC level and responsivity)	5% RMS (σ /mean, 300 K uncorrected performance)

	RM3 or SRI401	K508	LS5-7i
FOV	f/2; f/4	f/2; f/4	f/2
Regulated input power (**)	5.7 W _{DC}	5.7 W _{DC}	10.5 W _{AC}
Cooldown input power (**)	14 W _{DC}	10 W _{DC}	35 W _{AC}
Power supply	24 V	24 V	11 V
Cooldown time	5 min	6 min	4 min 30 s
Cooler dimensions (mm)	Ø 46 × L 71	Ø 46 × L 71	Ø 44.5 × L 123
IDCA height (optical axis, mm)	143.3	143.3	115
Weight	0.575 kg	0.575 kg	1.20 kg
Operating temperature	- 40° C to 71° C	- 40° C to 71° C	- 40° C to 71° C

(*) Optional extended waveband : 40% @ 0.5 μ m, 75% @ 0.8 μ m, >80% from 0.9 μ m to 1.6 μ m

(**) W_{DC} = at cooler C&CE DC input

OPTIONS

Proximity driving electronics (including ADC)

Technical training and support

Cooler driving electronics for LS5

APPLICATIONS



Technical characteristics described in this data sheet are for information only. They are not contractual and may change without prior notice.

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