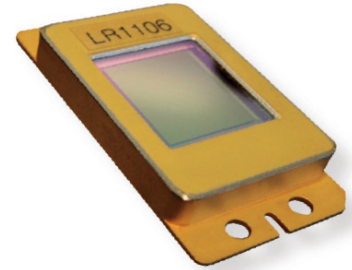


# Cactus 640SW

## High Resolution and High Sensitivity InGaAs FPA Module for Short Wave Infrared Imaging 640x512 InGaAs SWIR (25µm pitch)



Cactus 640SW is a high-sensitivity and high-resolution FPA assembly designed for demanding low flux, high resolution imaging applications in the wavelength range 0.9µm to 1.7µm. Sofradir InGaAs technology exhibits outstanding performance in terms of dark current, uniformity and operability. Cactus 640SW is well adapted to a large range of applications such as night vision, surveillance, airborne gimbals and various industrial and scientific applications.

- InGaAs Sensor
- Low Power
- High Sensitivity
- Up to 107 Hz Operation
- 25 micron Pixel Technology

### ELECTRO-OPTICAL SPECIFICATIONS @ 25° C

Quantum Efficiency (QE)	> 70% from 1µm to 1.6µm
Noise with ROIC	< 150 e- (High Gain)
Dark Current	< 0.2 pA @ 0.2 V detector bias
Operability	> 99.5% (*)
Non-uniformity without Correction	< 10%

### PACKAGING

Dimension (W x H x D)	35mm x 35mm x 6mm
Windows	Sapphire
Number of Pins	28 (24 for the detector)
Cooler	Single stage TE Cooler (8 V - 9 W)
Packaging Characteristics	Hermetically sealed
Operation Temperature	From -20° C to 70° C
Storage Temperature	From -40° C to 70° C

(\*) the fraction of pixels with responsivity deviation less than +/- 30% from the mean.

### ROIC FEATURES

Integration Time	1µs to full frame
Maximum Full Frame Rate @ 5 MHz	30 Hz / 58 Hz / 107 Hz (1, 2 or 4 outputs)
Maximum Frame Rate @ 5 MHz	14 KHz (windowing mode)
Maximum Pixel Rate	10 MHz
Full Well	39 10 <sup>3</sup> e- (High Gain) / 1.9 10 <sup>6</sup> e- (Low Gain)
Output Signal Swing	2.7 V
Input Bias	4.7 V to 5.5 V
Windowing	Programmable: ≥ 32x8 (1 output mode, 14.16 KFPS) ≥ 64x8 (2 output mode, 14.16 KFPS) ≥ 128x8 (4 output mode, 14.16 KFPS)
Temperature Sensor Output	Yes

### ARRAY FEATURES

Sensor Type	InGaAs PIN - Photodiode
Format	640x512
Pixel Pitch	25µm x 25µm
Waveband	0.9µm to 1.7µm

Technical characteristics described in this data sheet are for information only and are not contractual. Because of ongoing product enhancements, specifications are subject to change without notice. Export of these products from the United States is controlled by the US Government. Prior authorization is required for re-export or transfer.