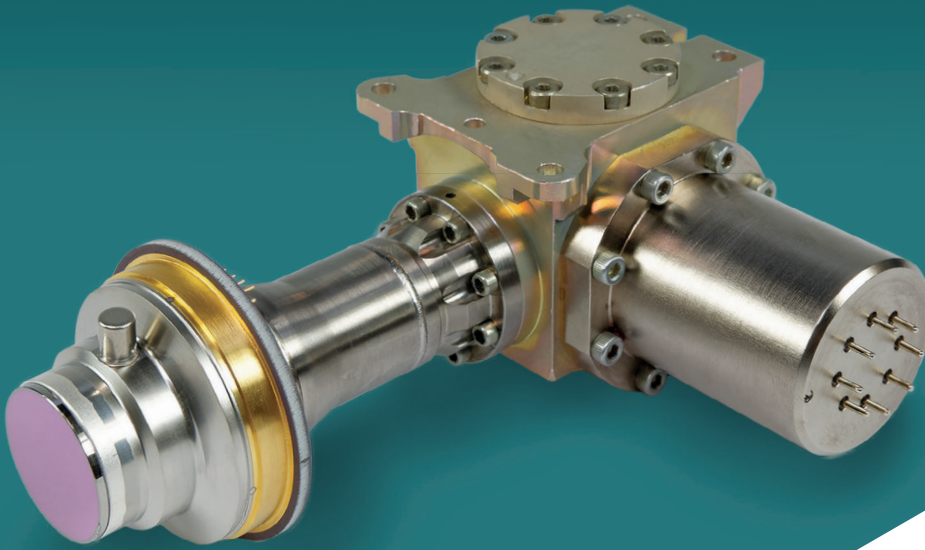


SUPERHAWK

ELECTRONICS DIVISION

MEDIUM WAVE INFRARED DETECTOR



The SuperHawk infrared detector is a 1280 x 1024 array of pixels on an 8 μ m pitch, manufactured using a Metal Organic Vapour Phase Epitaxy (MOVPE) process with Mercury Cadmium Telluride (MCT) detector material grown on low cost substrates.

The SuperHawk detector offers four times as many pixels in the same active image area as conventional 640 x 512 16 μ m pitch products. In addition, the SuperHawk offers a 1280 x 720 mode of operation, providing an easy High Definition upgrade in a smaller optical footprint than alternative 15 μ m Standard Definition products.

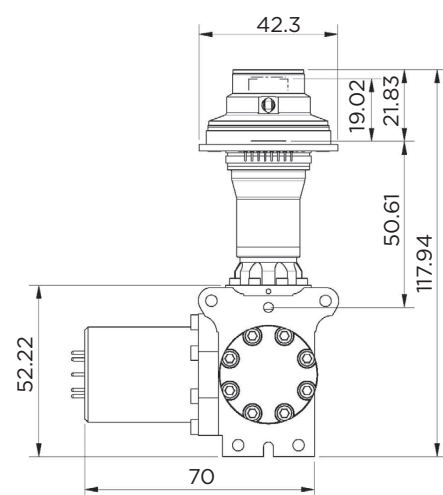
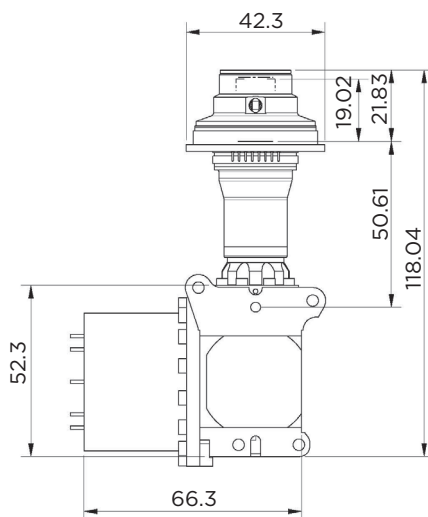
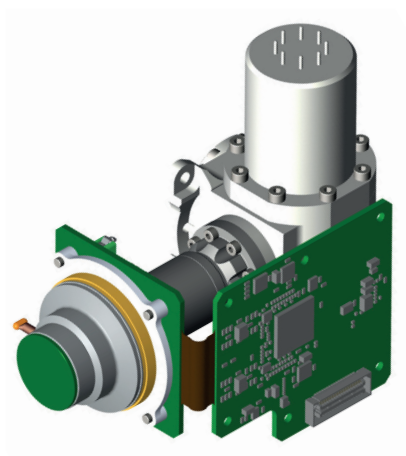
Using mesa diode structures, the 8 μ m pitch pixels in the SuperHawk detector have negligible blur from optical scattering, electrical cross-talk or carrier diffusion to achieve a near perfect modulation transfer function (MTF), resulting in the sharpest images typically characterised by the company's unique technology.

MAIN FEATURES

- › Medium waveband (3.7-5 μ m)
- › 1280 x 1024 format
- › 8 μ m x 8 μ m pixels
- › SXGA format
- › Selectable 720-HD format
- › Easy SXGA upgrade from 16 μ m sensors
- › Easy HD upgrade from 15 μ m SD formats
- › Negligible pixel blur
- › >110K Operation
- › 120 frames per second.

KEY BENEFITS

- › Compact
- › Low power
- › High resolution
- › More pixels on target
- › Easy interface with digital proximity electronics.



TECHNICAL SPECIFICATION

FORMAT

- › Array size: Mode 1: 1280 x 1024 pixels, Mode 2: 1280 x 720 pixels
- › Pixel pitch: 8µm
- › Active area: Mode 1: 10.24 x 8.19mm, Mode 2: 10.24 x 5.76mm
- › Image diagonal: Mode 1: 13.1mm, Mode 2: 11.75mm

ELECTRO-OPTIC

- › Spectral bandwidth: 3.7µm to 4.95µm
- › f -number: $f/2.8$ (standard) other f -number options available
- › Cold stop: 19mm above FPA
- › NETD: 20mK (typical)
- › Pixel operability: >99.8% (typical)
- › Operating temperature: 110K

ROIC

- › Snapshot modes: ITR or IWR
- › Windowing: Programmable

- › Charge handling capacity: 5Me-/3Me- selectable
- › Linearity: $\pm 0.5\%$
- › Number of outputs: 8
- › Pixel rate: 160Mpix/sec

PROXIMITY ELECTRONICS

- › Supply voltage: 5V
- › Power: <2.5W
- › Interface: Digital
- › ADC resolution: 14 bits
- › Video output: Serial LVDS

IDCA

- › Cooler: RM2 (standard) other cooler options available
- › Weight: 350g (with RM2)
- › Cooldown time: <5 minutes
- › Power consumption: from 6W
- › Operating temperature: -40°C to +70°C

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