

HIGH SENSITIVITY InGaAs FPA SWIR SENSOR BOARD

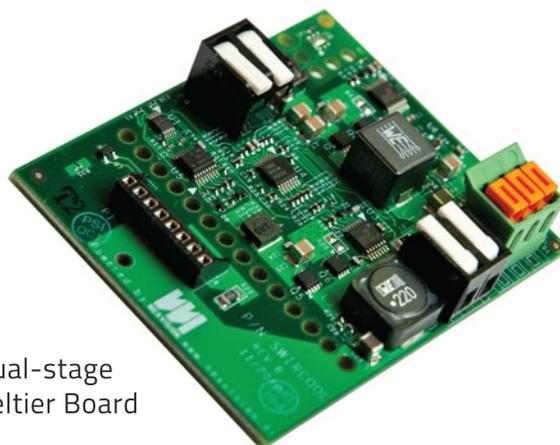


OVERVIEW

- Sensor type InGaAs PIN-Photodiode
- Enables high sensitivity night dynamic imaging
- 320x256 pixel format
- 30µm pitch
- High sensitivity in 0.9 to 1.7µm spectrum
- High uniformity and operability
- Low noise circuitry
- Low power <5W - Ideal for embedded systems
- Single or dual stage Peltier TEC (Thermo-Electrical-Cooler)
- High speed capabilities, up to 15kHz

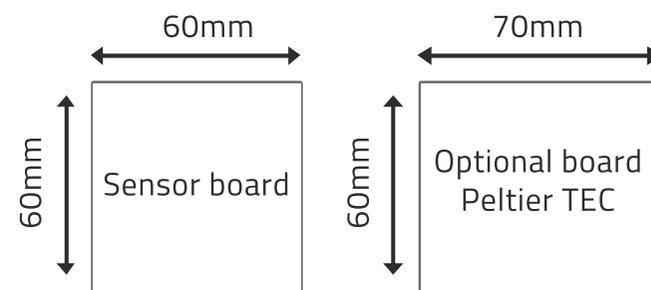
APPLICATIONS

- Industrial inspection
- Range finding
- Homeland security and border surveillance
- Camouflage detection
- Imaging through fog
- Vision enhancement (automotive or airborne)
- Astronomy



Dual-stage
Peltier Board

PHYSICAL DIMENSION



MORE DETAILS



ARRAY SPECIFICATIONS

Waveband 0.9 μ m to 1.7 μ m or 0.4 μ m to 1.7 μ m
 Resolution 320x256 & Pitch 30 μ m x 30 μ m
 Active Area 9.6mm x 7.68mm
 Quantum efficiency >70% @ 1.5 μ m
 Noise with ROIC <150e- @high gain
 Operability >99.5% & Dark current <1pA @20°C
 Non-uniformity without correction <5%

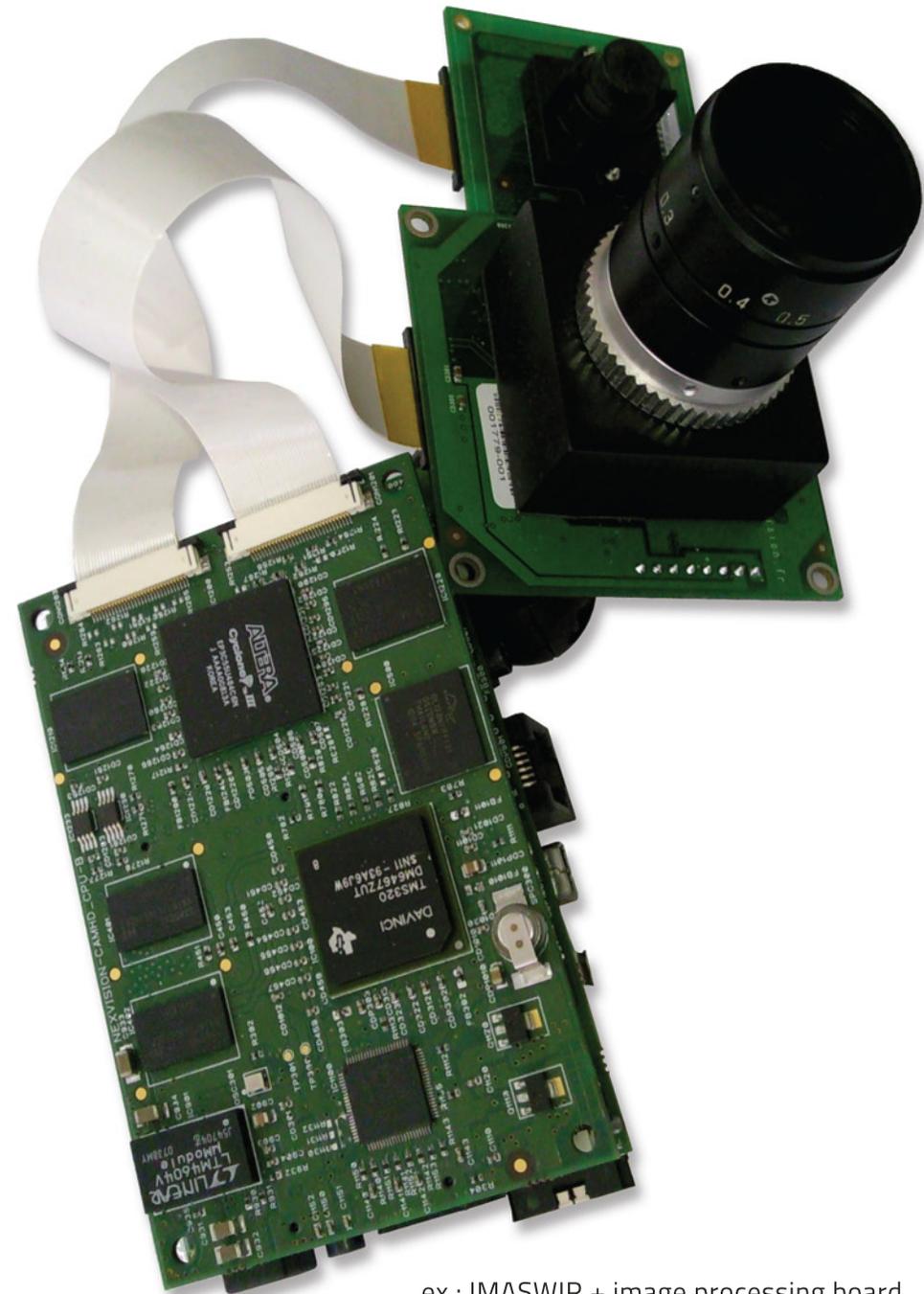
ROIC FEATURES (ISC9809)

Integration time >500ns
 Maximum frame rate @5MHz 15kHz (windowing mode)
 110Hz / 201Hz / 346Hz (1 / 2 / 4 outputs)
 Maximum Pixel Rate 10MHz
 Gain mode Two gain modes (1 and 20)
 Output dynamic range 2.7V (1.6V - 4.3V)
 Input bias 4.8V to 5.5V
 Windowing, skimming Yes
 Temperature sensor output Yes
 External synchronisation Yes

IMAGE PROCESSING

Image Processing on our CAMSMOOV+ board or CAMMASTER+ with a CoaxPress linked to IMASWIR sensor board on a NVHD-CXP+ board
 Non uniformity cyclic calibration (black level)
 Dynamic non uniformity correction (NUC on offset & gain)
 Multi-channel & multi-spectral band muxing (SWIR, Visible, LWIR, MWIR)
 Special-temporal noise filtering (3D)
 Contrast and edge enhancement
 Dynamic exposure loop
 Video up-sizing
 Optional:
 > Range gated active imaging loop control with "SWIRFLASH" high power SWIR nano-pulse lighting
 > High dynamic range (HDR)
 > Temperature loop control with "SWIRCOOL" board : double stage thermo-electrical-cooler (TEC) + heat extractor control.

EXAMPLE OF SWIR VIDEO CAMERA SOLUTION



ex : IMASWIR + image processing board