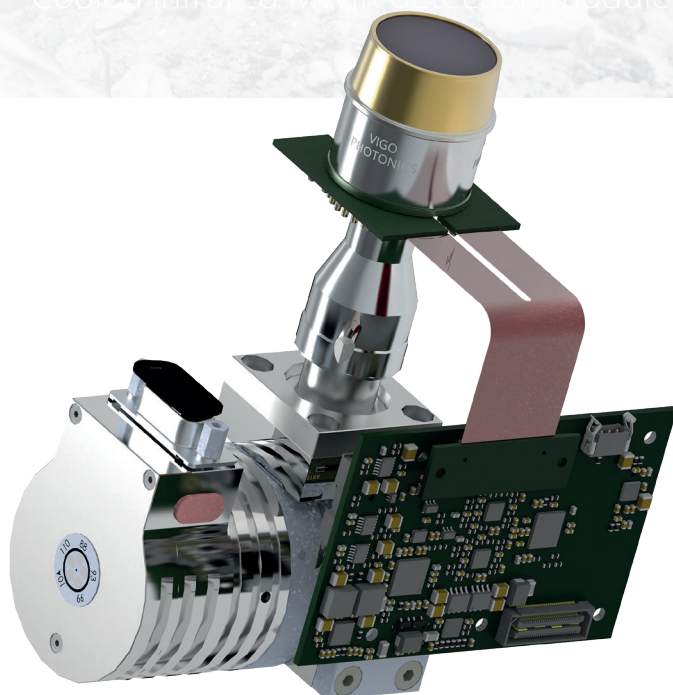


MWIR FPA T2SL Cooled Detector

Cooled infrared MWIR detection module



OWN UNIQUE TECHNOLOGY

VIGO Photonics S.A. achieves the state of art performance for T2SL based cooled MWIR focal plane array 640 x 512 format. FPA's are developed with Vigo Photonics S.A. **15 μ m pixel technology** from epitaxy substrate to final encapsulation of detector housing. The MWIR FPA is a reliable detection module designed for demanding applications. Special design provide easy mechanical and thermal integration with the target device. Planar window work with precisely defined spectral range of **MWIR sourced** which have to be detected.



640 x 512 - 15 μ m - T2SL MW PRODUCT RANGE



Integrated Optoelectronic Head

Thermal observation and tracking systems based on infrared multielement FPA



Thermal Panoramic System

Semi-spherical thermal drone detection system



Satellite IR Observation System

Infrared autonomy AI based observation system



Missile Warhead

Infrared missile homing warhead

Use of different coolers depending on the application



Stirling cooler



SWAP cooler



Jolue Thompson cooler

TYPICAL PERFORMANCES

ROIC

- ☒ ROIC architecture: Direct injection input circuit, selectable read mode
- ☒ ROIC functionalities: Programmable integration time
- ☒ Pixel output rate: **Up to 10 MHz** per output
- ☒ Frame rate: **Up to 120 Hz** full frame rate

Cooler

- ☒ Power consumption (cooling stage): **~13.0 W**
- ☒ Stirling cooler: **Ricor K508***
- ☒ Power consumption (after stabilization): **~3.9 W**

*Available to integrate with others Stirling coolers



DETECTOR PARAMETERS

- Material: **T2SL**
- Format: **640 x 512 px**
- Pixel pitch: **15 μm**
- NEDT: **~18 mK**
- Operability: **> 99.5 %**
- Work temp.: **110K – 150K**
- Spectral range: **3.7 μm – 4.8 μm**
- Cooling time: **~3 min**

FIGURE 1. The MWIR FPA detection module

