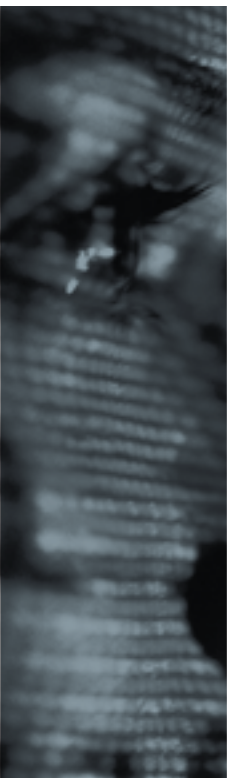


Night Vision Enhancement

## Thermal imaging technology: your best ally in the field



Silicon infrared imaging sensors for military and paramilitary applications

# Thermal imaging, for mission-critical night vision in the field

In today's conflicts, field conditions are increasingly unpredictable and threats can appear out of nowhere. This constantly-shifting landscape is further complicated by hostile mission environments like deserts, mountains, dense forests, and urban areas. Add to this new types of enemies—insurgents, terrorists, militias, gangs, and hooligans—and the capacity to rapidly assess the environment becomes a life-and-death matter for your military, paramilitary, and security troops.

Mission safety and security depend on fast, reliable information about the terrain for fast, targeted responses during the day and—especially—at night.

In these sometimes-extreme mission conditions, thermal imaging can help make sure your troops come home safely.

Unlike other technologies like image intensifiers and near infrared imaging, which require outside light sources, thermal imaging—a passive technology—gives your troops a clear tactical advantage over their adversaries, in all conditions.



## Benefits

- Excellent image quality day and night and in all weather conditions
- Faster, better decision-making for safer, more accurate responses in the field

## Military and paramilitary applications

- Field reconnaissance
- Mission security
- Mission surveillance
- Border control
- Target acquisition
- Driver assistance



## The silicon microbolometer for clear, crisp images in all conditions

First developed over twenty years ago for civilian applications, silicon microbolometers have significantly matured and today offer outstanding levels of performance. They are used in commercial products and strategic applications like thermal imaging cameras used for night vision and temperature measurement; fire, search, and rescue missions; and home energy audits.

Widespread mass-production for commercial applications has brought microbolometer costs down to levels that are compatible with common military applications, enabling you to equip each and every soldier for surveillance, situation awareness, and driver vision enhancement.



## ULIS, your partner for night vision enhancement

Since its inception in 2002, ULIS has been developing silicon microbolometers for use in a wide range of applications. As a result of ongoing product development work, ULIS offers high-performance solutions for strategic applications, backed by the guarantee of mutually-beneficial long-term partnerships with Original Equipment Manufacturers (OEMs).

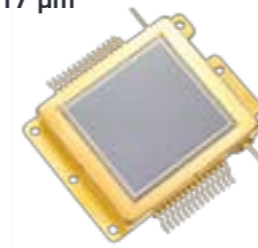
As a component provider, ULIS today is uniquely positioned to meet the needs of the most demanding military and paramilitary applications by delivering comprehensive night vision enhancement solutions.

ULIS customers retain total control over the information transmitted by their systems—crucial in times of conflict.

### Pico1024E™

UL 05 25 1

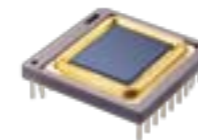
1024 x 768 - 17 μm



### Pico640E™

UL 04 32 2

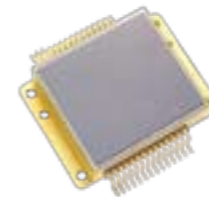
640 x 480 - 17 μm



### Nano384E™

UL 03 19 1

384 x 288 - 25 μm



### Robust, high-performance solutions

- Crisp, high resolution (up to XGA) images at night and in fog or rain
- Field-tested robustness in harsh mechanical environments (MIL-STD-883/810, TWS qualified)
- Sun-resistant
- Meet military SWaP reduction requirements

### Access to state-of-the-art technology

- Benefit from the latest technologies on the market (17μm pitch)
- Retain total control over system design
- Get proven technology based on established semiconductor manufacturing processes

### A unique business model

- Infrared sensor provider to OEMs
- The guarantee of long-term partnerships with infrared system manufacturers

### Best-in-class customer support

- Dedicated customer support from development to production
- Solid experience working with technology business units

### Guaranteed long-term product availability

- Product lifetime compatible with military programs
- Independent supplier located in Europe
- Non-ITAR products

## ULIS infrared imaging sensor performance specifications

- High sensitivity (< 50 mK thermal resolution)
- Fast response time (frame rate of >50 Hz)
- Small pixel size (17μm pitch for compactness and resolution)
- Several array sizes available up to XGA (1024x768 pixels)
- Approved for use in harsh environments (MIL-STD-810/883,TWS)

## Performance you can count on for critical missions

ULIS is the world's leading provider of infrared imaging sensors using amorphous silicon microbolometer technology. MEMS-based amorphous silicon microbolometers deliver all the advantages of silicon processing, including low cost and high yield. In addition, because they are highly

sensitive to infrared radiation, they are ideal for use in thermal imaging cameras. Designed in a high-reliability package approved for use in harsh environments, amorphous silicon offers the performance and robustness that military and paramilitary applications demand.

## Night Vision Enhancement

Silicon infrared imaging sensors for military and paramilitary applications

### About ULIS

ULIS manufactures high-volume infrared (IR) imaging sensors for low-cost, low-power, lightweight IR cameras. It offers a range of small and large form factor IR products for industrial, security, and military applications. ULIS is the world's leading manufacturer of far infrared imaging sensors using amorphous silicon microbolometer technology, which is both reliable and easy to produce. Customers choose ULIS IR sensors for their light weight, low power consumption, and compatibility with volume production. ULIS offers unique advantages enabling OEMs worldwide to custom-design IR systems for truly differentiated IR camera products.

ULIS is located in Veurey-Voroize, near Grenoble, France.

- A subsidiary of Sofradir and GE Equity
- More than 120 employees
- 4,500 m<sup>2</sup> of facilities (including 500 m<sup>2</sup> of clean rooms)
- High production capacity



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