

IR-SF641

Thermal imaging cameras



640 × 512 thermal imaging in a module for drones and embedded systems

IR-SF641

Mini infrared module for OEM integration

amperis

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A thermal core ready to build into inspection, monitoring and airborne systems.

Product overview



Module with athermalised lens, from 9 to 75 mm

A complete thermal core

The IR-SF641 packs an uncooled VOx detector of 640×512 with $12 \mu\text{m}$ pixel pitch and a thermal sensitivity of $\leq 30 \text{ mK}$ at 50 Hz, over the $8\text{-}14 \mu\text{m}$ band — the imaging heart of an inspection or surveillance system, ready to integrate.

Optics for every distance

Six athermalised fixed lenses (9 to 75 mm; 9-25 mm for the IR-SF641R variant) keep focus regardless of ambient temperature, and DDE detail enhancement, polarity switch and 1-8× digital zoom condition the image before output.

Main features

- Analogue PAL or NTSC video output on one channel.
- UART control (TTL 3.3 V) with reserved user I/O.
- Automatic calibration at power-on, plus manual calibration.
- Automatic or manual brightness and gain.
- Single 5 V DC supply, suited to low-power platforms.



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Applications and variants

Applications

- Drones and airborne platforms.
- Industrial temperature measurement systems.
- Security control and outdoor sighting.
- Applications with tight volume and power budgets.

Two variants

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The IR-SF641 offers the full lens set from 9 to 75 mm, while the IR-SF641R keeps the compact set of 9, 13 and 25 mm; both share the same detector, processing and interfaces.



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IR-SF641 – TECHNICAL SPECIFICATIONS

Detector	Uncooled VOx, 640 × 512; 12 µm pixel pitch
Thermal sensitivity (NETD)	≤ 30 mK
Frame rate	50 Hz
Spectral range	8-14 µm
Lenses	Athermalised fixed focal length: 9, 13, 25, 35, 50 or 75 mm (IR-SF641R: 9, 13, 25 mm)
Image processing	DDE digital detail enhancement; polarity switch; noise reduction
Brightness and gain	Manual, auto brightness/manual gain or full auto
Digital zoom	1.0-8.0×
Calibration	Manual, plus automatic calibration at power-on
Video output	1 channel PAL or NTSC (analogue)
Control	UART (TTL 3.3 V); reserved user I/O, 16-bit interface
Power supply	5 V DC



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