



SHORTWAVE INFRARED (SWIR) PACKAGED SENSOR

FLIR ISC1202 SWIR Packaged Sensor



The FLIR ISC1202 SWIR packaged sensor, and broadened spectral range Vis-SWIR packaged sensor, offer OEMs a high performance Indium Gallium Arsenide (InGaAs) sensor for integration into a range of platforms. The VGA format sensor is designed for a variety of applications, including hyperspectral instrumentation, silicon inspection, electro-optical payloads, art restoration, counterfeit detection, and portable systems. Based on the FLIR ISC1202 read-out integrated circuit, the InGaAs/VisGaAs packaged sensors provide outstanding image quality and performance over a wide range of imaging and light level conditions.

The ISC1202 SWIR sensor incorporates the FLIR high-resolution 640×512 ISC1202 InGaAs 15-micron pitch focal plane array (FPA) into a 36-pin evacuated and hermetically sealed package with a thermoelectric cooler for temperature stabilization.

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VISIBILITY WHEN IT MATTERS

Core components that offer crisp images and reliable data.

- High resolution $640 \times 512 / 15 \mu\text{m}$ InGaAs/VisGaAs FPA
- On-chip correlated double sampling (CDS) for noise reduction
- Anti-blooming and snapshot integration
- Three gain state operating modes for wide range of applications



STANDARD USER INTERFACE

Designed for ease of integration.

- FLIR Standard FPA/ROIC Controls
- Programmable features including, windowing, integration time, gain state
- Simple 4 clock interface
- Analog outputs



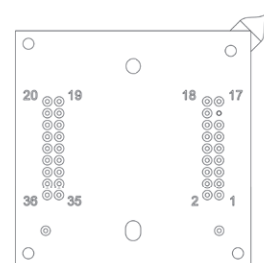
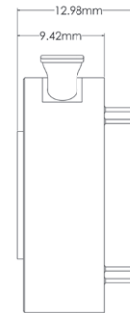
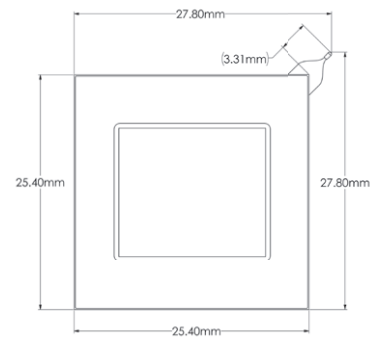
TECHNICAL PERFORMANCE

The performance, reliability and support expected from FLIR

- >65% quantum efficiency
- <35 e⁻ ROIC noise with CDS
- <200 mW with 8-outputs
- Exposure time of 1 μsec to full frame
- 240 Hz full frame

SPECIFICATIONS

OVERVIEW	ISC1202 SWIR	ISC1202 Vis-SWIR
Sensor Technology	Shortwave Infrared (SWIR)	Shortwave Infrared (Vis-SWIR)
Detector Type	Indium Gallium Arsenide (InGaAs)	Visible Indium Gallium Arsenide (VisGaAs)
Array format	640 x 512	640 x 512
Pixel Pitch	15 μ m	15 μ m
Spectral Range	0.9 – 1.7 μ m (SWIR)	0.6 – 1.7 μ m (Vis-SWIR)
IMAGING & OPTICAL		
Active Area	9.6 x 7.68 mm	9.6 x 7.68 mm
Noise Equivalent Irradiance (NEI) in High Gain	1.64 x 10 ⁹ (Industrial Spec) 1.06 x 10 ¹⁰ (Professional Spec) 2.46 x 10 ¹⁰ (Consumer Spec) Note: integration times assumed are 33 ms, 5 ms, and 2 ms for Industrial, Professional, and Consumer specs respectively.	1.33 x 10 ⁹ (Industrial Spec) 1.06 x 10 ¹⁰ (Professional Spec) 2.46 x 10 ¹⁰ (Consumer Spec) Note: integration times assumed are 33 ms, 5 ms, and 2 ms for Industrial, Professional, and Consumer specs respectively.
Operability	> 99.5% (Industrial Spec) > 99.0% (Professional Spec) > 98.0% (Consumer Spec)	> 99.5% (Industrial Spec) > 99.0% (Professional Spec) > 98.0% (Consumer Spec)
Optical Fill Factor	100%	100%
Quantum Efficiency (1 – 1.5 μ m)	> 65% (Industrial Spec) > 60% (Professional & Consumer Spec)	> 80% (Industrial Spec) > 60% (Professional & Consumer Spec)
ELECTRICAL & MECHANICAL		
Vacuum Package Dimensions	27.8 mm x 25.4 mm x 9.42 mm	27.8 mm x 25.4 mm x 9.42 mm
ESD Protection	Built-In	Built-In
ENVIRONMENTAL		
Humidity	5 – 95% non-condensing	5 – 95% non-condensing
Operational Altitude	+12 km	+12 km
Shock	500 g @ 0.8 msec	500 g @ 0.8 msec
Vibration	4.3 g three axis	4.3 g three axis
POWER		
Input Supply Voltage	4.9 – 5.5 VDC	4.9 – 5.5 VDC



Specifications are subject to change without notice.
For the most up-to-date specs, go to www.flir.com

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18-2506-OEM-COR-ISC1202 Packaged Sensor Datasheet



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