

Micro Core

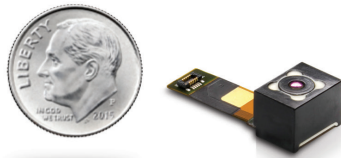
**ULTRA-COMPACT, LOW COST,
HIGH-PERFORMANCE THERMAL
IMAGING CORE WITH 200 X 150
SENSOR RESOLUTION**

KEY CAMERA SPECS

- 200 x 150 Sensor Resolution
- 61° Field of View
- 20C to 300C (-4F to 572F) Detection
- Size (LxWxH) 8 x 11 x 8mm
- Shutterless Design
- Dual-Gain Smart Pixels
- Export Compliant <9Hz Frame Rate

Seek
thermal

thermal.com



Micro Core is a high-performance thermal sensor in a market-leading size footprint. Designed for small form factor, low power and lightweight applications, the Micro Core delivers high-end thermal capabilities, accuracy and performance that is unmatched in its price range.

**Designed and Manufactured in Santa Barbara,
California with Global Components.**

KEY FEATURES

200 x 150 High-Resolution Thermal Sensor

30,000 temperature pixels for excellent image clarity and sensitivity

Dual-Gain Smart Pixels

Each pixel automatically adjusts gain states to maximize resolution contrast when viewing hot and cold objects in the same scene

12 Micron Pixels

More resolution and temperature data packed into a physically tiny array enables small form factor applications and lower cost

Low Cost. Small Size. High Performance.

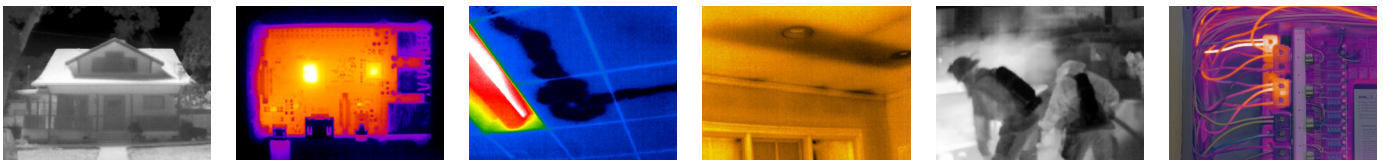
Unmatched price-per-pixel thermal sensor available

Shutterless Design for Uninterrupted Imaging

Automatic shutterless correction increases reliability by eliminating a moving mechanical part and delivers uninterrupted thermal imaging

Add a Visible Light Camera

SDK support available for integrating a visible light camera to fuse thermal and visible images together for additional context



DEVELOPER PORTAL ACCESS

Get access to SDKs, APIs, support documentation and other important tools to ensure your project is a success. SDKs available for Linux, Android and Windows.

Please contact your sales representative for access to the Seek Developer Portal.

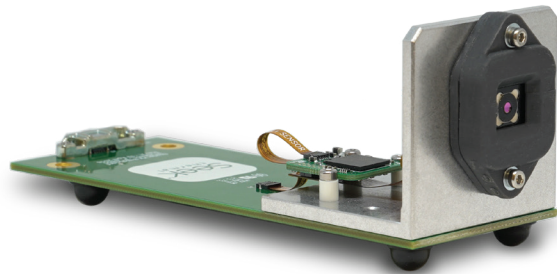
TECHNICAL SUMMARY

200 x 150 RESOLUTION

Specifications	Description	
Microbolometer	Uncooled Vanadium Oxide	
Pixel Pitch	12 Microns	
Spectral Response	7.8 - 14 Microns	
Sensor Resolution (Array Format)	200 (h) x 150 (v); 30,000 pixels	
Frame Rate	<9Hz (Export Compliant)	
Scene Dynamic Range ¹	-20°C to 300°C	
Sensor Sensitivity	75 mK (typical), <100 mK (max) @ 25°C with f/1.1	
Non-Uniformity Correction (NUC)	Automatic shutterless NUC (with scene motion)	
Video Output Interfaces ²	USB	
Supply Voltage	3.3V to 5.5V	
Power: Core Only	<50mW	
Power: Core + Interface Board	300mW	
Output Formats (user selectable)	Linux / Windows SDK	Android SDK
	16-bit filtered pre AGC. 32-bit ARGB post colorization. 32-bit floating point or 16-bit fixed point thermography data.	16-bit filtered pre AGC. 32-bit ARGB post colorization in the bitmap image. 16-bit fixed point thermography data.
Optics		
Focal Length	2.2mm	
F-number (focal length/aperture)	f/1.1	
Spatial Resolution (IFOV, center)	5.2	
HFOV	61°	
VFOV	45°	
Detection Range ³	186m	
Recognition Range ³	46m	
Identification Range ³	27m	
Distance to Spot Ratio	31:1	
Focus	Fixed	
Depth of Field	10 cm to infinity	
Lens Material	Chalcogenide	
Mechanical		
Core Dimensions (L x W x H)	<8 x 11 x 8mm core only plus flex	
Core Weight	1.8 g	
Thermography		
Temperature Calibration	Calibrated Output in °C, °F, °K	
Thermography Accuracy ^{1,4}	The greater of ±5°C or 5% between 0°C to 300°C scene temperatures	
Environmental		
Operating Temperature Range	-10°C to 65°C	
Storage Temperature Range	-40°C to 80°C	
Solar Protection	Yes	
Humidity	10%~95%RH, non-condensing	
Ingress Protection	IP50	
Regulatory	ROHS, WEEE, REACH	
Documentation and Tools		
Starter Kits	Available	
Data Sheet	Available	
Accessories	Interface Board and Flexes	

1. Specified at nominal 25°C ambient operating temperature and nominal measurement distance of 12 inches. Contact Seek Thermal for performance at other nominal operating temperatures and measurement distances.
2. SPI option available. Contact Seek Thermal for further details.
3. Based on Johnson Criteria.
4. Factory default emissivity is set to 0.97. Emissivity is adjustable using the SDK. See data sheet for more information.

Specifications and undocumented specifications are subject to change without notice.
For the most up-to-date specifications, visit thermal.com/oem

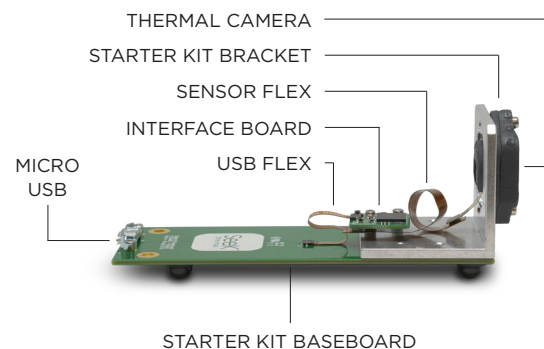


Everything you need to get started with thermal imaging.

Starter Kits enable your project team to begin development with a Micro Core quickly and easily. To start your evaluation, download the Sample Viewer and connect the Starter Kit for simple, plug-and-play thermal imaging. Get access to the Developer Portal with SDKs, APIs, and other important documentation to ensure your project is a success.

INCLUDED IN A STARTER KIT

- **Micro Core:** Thermal camera with Interface Board Kit
- **Starter Kit Baseboard:** Development board with MicroUSB port. Designed to hold core and accessories.
- **Cable:** MicroUSB to USB cable.
- **USB Drive:** Contains temperature calibration data. Follow instructions on the Developer Portal to transfer files and incorporate temperature data.
- **Developer Portal Access:** Get access to SDKs, APIs, a Sample Viewer and other support tools.



STARTER KIT PART NUMBER

Resolution	Lens	HFOV	Interface Board Kit	Frame Rate	Part Number
200 x 150	2.2mm f/1.1	61°	Provided by Seek	< 9Hz	MS202SP

Please contact your sales rep for more information on Starter Kits.

6300 HOLLISTER AVE, SANTA BARBARA, CA 93117 USA

Seek Thermal engineers and manufactures low-cost, high-resolution thermal imaging cameras and OEM thermal cores. Founded by industry pioneers who spent 40 years advancing the state of military and professional-grade thermal technologies, Seek Thermal has developed a breakthrough line of products at competitive price points making this technology more accessible to manufacturers and end users. The company's products serve the firefighting, law enforcement and commercial markets, among others, under its own brand and OEM offerings.