

Micro Core™

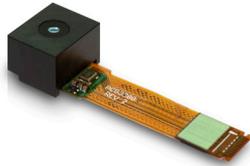
**THE SMALLEST AND LIGHTEST
SHUTTERLESS THERMAL CAMERA
ON THE MARKET TODAY**

KEY CAMERA SPECS

- 200 x 150 Sensor Resolution
- 61° and 81° Field of View Options
- 20C to 300C (-4F to 572F) Detection
- Size (LxWxH) <8 x 11 x 9mm
- Shutterless Design
- Dual-Gain Smart Pixels
- < 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

Shutterless Design for Uninterrupted Imaging

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

200 x 150 Thermal Sensor Resolution

30,000 temperature pixels for excellent image clarity and sensitivity

12 Micron Pixels

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

Small Size. Big Performance.

Unmatched combination of performance, size, and price

Easy To Use Development Tools

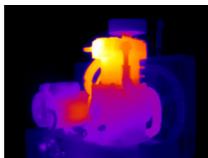
Get access to SDKs, APIs, support documentation and other important tools to ensure your project is a success

Dual-Gain Smart Pixels

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



Ruggedized Devices



Monitoring



Firefighting



Test & Measurement



Drones



Automotive

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		
Scene Dynamic Range ¹	-20°C to 300°C		
Measurement Range ¹	0°C to 300°C		
Sensor Sensitivity	75mK (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 (with separate processor board)		
Supply Voltage	3.3V to 5.0V		
Power: Core Only	<50mW @ 25°C		
Power: Core + Interface Board	<300mW @ 25°C		
Output Formats (user selectable)	Linux / Windows SDK		
Partially Processed	16-bit corrected data and pre-AGC filtered		
Color Data	32bit float & 16-bit and 8-bit Grayscale Data		
Thermography	32-bit floating point or 16-bit fixed point		
Optics			
Focal Length	1.8mm	2.3mm	
F-number (focal length/aperture)	f/1.10	f/1.05	
Spatial Resolution (IFOV, center)	6.67	5.23	
HFOV	81°	61°	
VFOV	59°	45°	
Detection Range ³	145m	186m	
Recognition Range ³	36m	46m	
Identification Range ³	21m	27m	
Distance to Spot Ratio	25:1	32:1	
Focus	Fixed	Fixed	
Depth of Field	10 cm to infinity	10 cm to infinity	
Lens Material	Chalcogenide	Chalcogenide	
Mechanical			
Focal Length	1.8mm	2.3mm	
Core Dimensions (L x W x H)	7.3 x 11 x 9mm core only plus flex	7.9 x 11 x 9mm core only plus flex	
Core Weight	1.9 grams	2.0 grams	
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 temperature		
Environmental			
Operating Temperature Range	0°C to 65°C		
Storage Temperature Range	-40°C to 105°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		

1. Specified at nominal 25°C ambient operating temperature and nominal measurement distance of 12 inches. Temperature reported is Center Spot temperature, which is an average of the center 36 pixels. Contact Seek Thermal for performance at other nominal operating temperatures.
2. SPI option available. Contact Seek Thermal for further details.
3. Based on Johnson Criteria and 2m target size.
4. Factory default emissivity is set to 0.97. Emissivity is adjustable using the SDK.

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

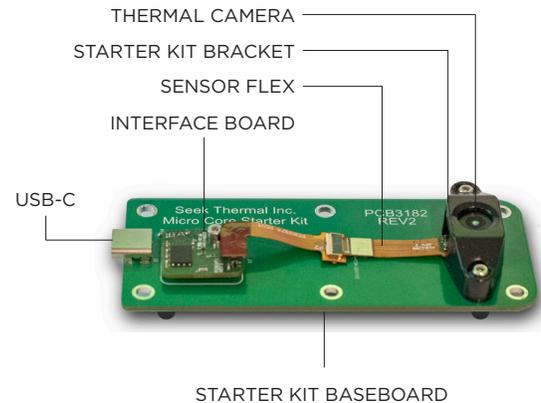
Everything you need to get started with thermal imaging.

Starter Kits enable your project team to begin development with Micro Core quickly and easily. Get access to the Developer Portal with SDKs, APIs, and other important documentation to ensure your project is a success. Purchase a Starter Kit today to begin your evaluation.



INCLUDED IN A STARTER KIT

- **Micro Core:** Thermal camera with Interface Board Kit
- **Starter Kit Baseboard:** Development board with USB-C port.
- **Cable:** USB-C to USB-A cable.
- **Developer Portal Access:** Get access to SDKs, APIs, a Sample Viewer and other support tools.



STARTER KIT PART NUMBERS

Resolution	Lens	HFOV	Interface Board Kit	Frame Rate	Part Number
200 x 150	1.8mm f/1.10	81°	Provided by Seek	< 9Hz	MS201SP
200 x 150	2.3mm f/1.05	61°	Provided by Seek	< 9Hz	MS202SP

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Seek Thermal engineers and manufactures affordable, 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.