

Mosaic Core Specification

| | | | | | | | |
|--|--|--|--|--------------------|--|-------------------|--|
| Core Number: C306SP | | Starter Kit Number: S306SP | | Mktg Rev. 3 | | 11/05/2021 | |
| Product Specifications: | | Description | | | | | |
| Microbolometer | | Uncooled Vanadium Oxide | | | | | |
| Pixel Pitch | | 12 Microns | | | | | |
| Spectral Response | | 7.8 - 14 Microns | | | | | |
| Sensor Resolution (Array Format) | | 320 (h) x 240 (v); 76,800 pixels | | | | | |
| Frame Rate | | Slow Frame - <9Hz | | | | | |
| Non-Uniformity Correction (NUC) | | Automatic NUC (with shutter) | | | | | |
| Video Output Interfaces | | USB | | | | | |
| Power: | | | | | | | |
| Power Requirement | | 3.3-5.0V, <50mW (Core only), 300mW (Core + Coprocessor Board) | | | | | |
| Optical & Mechanical: | | | | | | | |
| Focal Length | | 6.6mm EFL | | | | | |
| F-number (Focal Length/aperture) | | f/1.26 | | | | | |
| Spatial Resolution (IFOV, center) | | 1.82 | | | | | |
| Field of View (FOV) | | 34° Horizontal x 25° Vertical | | | | | |
| Detection Range | | 543m (based on Johnson Criteria) | | | | | |
| Recognition Range | | 136m (based on Johnson Criteria) | | | | | |
| Identification Range | | 78m (based on Johnson Criteria) | | | | | |
| Distance to Spot Ratio | | 91:1 | | | | | |
| Core Size/ Core Weight | | 23mmx20mmx21mm | | | | Core Weight: 12 g | |
| Seek Software Development Kit: | | | | | | | |
| Supported Platforms | | USB: Seek Linux, Windows, & Android SDK | | | | | |
| Output Formates (User selectable) | | Linux / Windows SDK | | | Android SDK | | |
| | | 16-bit filtered pre AGC | | | 16-bit filtered pre AGC | | |
| | | 32-bit ARGB post colorization. | | | 32-bit ARGB post colorization in the bitmap image. | | |
| | | 32-bit floating point or 16-bit fixed point | | | 32-bit floating point or 16-bit fixed point thermography data. | | |
| Imaging Specifications: | | Calibrated Output in °C, °F, K | | | | | |
| Imaging Range | | -40°C to +330°C at ambient operating temperature | | | | | |
| Thermography Accuracy | | Center spot temperature greater of ±5°C or 5% between -10°C to 140°C | | | | | |
| | | Center spot temperature greater of ±10°C or 10% (typical) above 140°C | | | | | |
| | | All measured at 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. | | | | | |
| Sensor Sensitivity | | 65 mK (typical), <100 mK (max) @ 25°C | | | | | |
| Emmissivity | | Factory default emissivity is set to 0.97. Emissivity is adjustable using the SDK. | | | | | |
| Environmental Conditions: | | | | | | | |
| Operating Temperature Range | | -10°C to +60°C (-14°F to 140°F) | | | | | |
| Storage Temperature Range | | -40°C to +80°C (-40°F to 176°F) | | | | | |
| Solar Protection | | Yes | | | | | |
| Humidity | | 10%~95%RH, non-condensing | | | | | |
| Regulatory | | ROHS, WEEE, REACH | | | | | |
| Accessories: | | | | | | | |
| Cushion | | Yes | | | | | |
| Bracket | | Yes | | | | | |
| Sensor Flex | | Yes | | | | | |
| Coprocesor Board | | Yes | | | | | |
| USB Flex | | Yes | | | | | |
| | | <p>The diagram illustrates the components of the Mosaic Core system. On the left, three items are labeled: CUSHION (a grey ring), THERMAL CAMERA (a black cube), and BRACKET (a white ring). These three items are grouped under the label THERMAL CORE. On the right, three items are labeled: SENSOR FLEX (a yellow curved strip), COPROCESSOR BOARD AND INTERFACE KIT (a green board), and USB FLEX (a yellow curved strip). These three items are grouped under the label COPROCESSOR BOARD AND INTERFACE KIT. Below the second group, a note states: 'Provided by Seek or receive design files for integration into other electronics.'</p> | | | | | |
| Customer Responsibilities: | | | | | | | |
| IP Rating | | IP67 | | | | | |
| Shock/Vibe | | Customer responsibility with proper integration into final product housing | | | | | |

