

A photograph of a modern glass skyscraper with a grid-like facade, set against a clear blue sky. The building's lines create a strong geometric pattern.

Uncooled Thermal Image Detector 640 x 512

Overview

The 640x512 uncooled infrared focal plane detector is an uncooled long-wave infrared photodetector, which uses a microbolometer of vanadium oxide material to convert infrared radiation to electrical signals, which can be integrated into an infrared thermal imaging machine. The focal plane array is composed of a silicon-based readout IC and a MEMS pixel array with a pixel size of 17 μm and is vacuum-packaged in a ceramic tube shell without a thermoelectric cooler, which meets ROHS requirements.

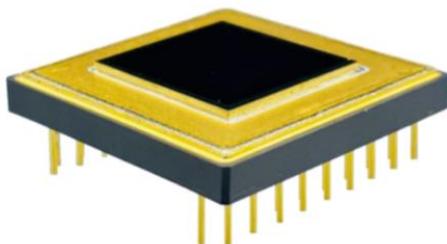
Spotlight

- | Considering sensitivity, uniformity, and performance, it is suitable for a variety of applications
- | Highly adaptable, greatly reducing BOM cost
- | Excellent temporal and spatial noise, noise reduction technology to minimize the impact of noise
- | Lower chip power consumption and can work in low power consumption mode(120mW)
- | Comprehensive on-chip offset calibration to ensure high dynamic range thermal imaging capabilities
- | No TEC and low temperature drift output, simplifying external calibration and correction operations
- | Built-in temperature sensor, can digitally output the chip temperature



Product Features

- | 640x512 array pattern
- | 17 μm pixel size
- | Maximum frame rate 60Hz
- | NETD<40mK (F/1, 300K, 30Hz)
- | Thermal time constant <12ms
- | 3.6V/1.8V power supply
- | Low power consumption <150mW
- | Fully digital interface, no external DAC/ADC required
- | Operational rate>99.5%
- | Internal 14-bit column ADC
- | Supports no TEC and no shutter applications
- | Operating temperature range -40°C to +85°C
- | 36PIN PGA ceramic package
- | Package size (36PIN PGA-24.13x24.13x3.9mm without pin length)



Applications

- | Industrial accurate temperature measurement
- | Security protection monitoring
- | firefighting and fire rescue
- | vehicle security night vision
- | Building structure inspection
- | Long-term care medical monitoring

