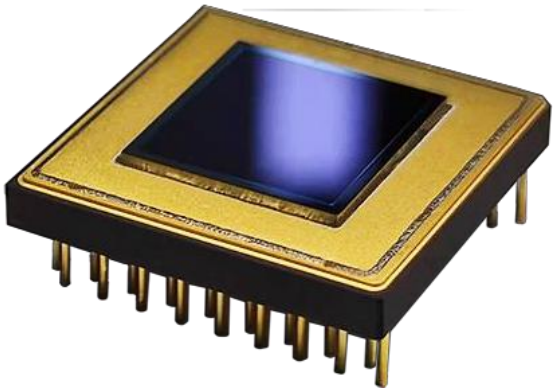
S6417DV 640 x 512

Uncooled infrared focal plane detector



Suzhou Grand Sensor Inc.

- 17μ M pixel size
- Maximum frame rate 60Hz
- NETD≤40mK (F/1, 300K, 30Hz)
- Thermal time constant 8-10ms
- 3.6V/1.8V POWER SUPPLY
- Low power consumption < 150MW
- Full digital interface without off chip DAC / ADC
- Operability rate > 99.5%
- Built in 14 bit column ADC
- Support Tec and blank free applications
- Operating temperature range - 40 ° C to + 85 ° C
- 36PIN PGA Ceramic packaging
- Package size 24x24x3.9mm

Taking into account sensitivity, uniformity and cost performance,

- Suitable for a variety of application scenarios
- High integration, greatly reducing the cost of BOM, simple and easy to use
- Excellent time and space noise, through various noise reduction technologies,
  Minimize the impact of noise
- Low chip power consumption and can work in low power consumption mode
  (<100mW)
- Comprehensive on-chip maladjustment correction function ensures high dynamic range temperature measurement and imaging ability
- No Tec low temperature drift output, simplifying external calibration and correction operation
- Built in temperature sensor, digital output chip temperature

S6417DV 640 x 512 Uncooled infrared focal plane detector is an uncooled long wave infrared photodetector. It uses a micro bolometer made of alum oxide to convert infrared radiation to electrical signal, which can be integrated into an infrared thermal imaging camera. By silicon-based readout circuit and 17 μ The MEMS pixel array with m pixel size forms a focal plane array and is vacuum encapsulated in a ceramic shell without thermoelectric cooler.

definition	describe	Typical value	remarks
Sensor	Uncooled vox microbolometer		
Spectral range	Long wave infrared, 8um-14um		
Array size	640 x 512		Rows and columns without peripheral dummy pixels
encapsulation	36 pin PGA ceramic package		
Pixel size	17μm		
Frame rate	25-60Hz	30Hz	
On chip ADC bits	14bit		
Thermal sensitivity	Time domain NETD	40mK	@F=1,T=300K,30Hz
Digital output	4-port CMOS logic level		Including temperature sensing output
Input clock	40-100MHz	50MHz	

control protocol	SPI		External frame synchronization
supply voltage	3.6V/1.8V		Digital IO compatible 3.3v/1.8v
consumption		150mW	@ T=300K,30Hz
Dimension	24x24x3.9mm		
Weight	≤8g		
Operating temperature range	-40~85℃	27℃	Wihout TEC

Size and package information