300K 640x512 Uncooled Thermal Camera Module

KEY PROPERTIES

- Uncooled VOx infrared detector 640x512 pixels
- Spectral Band: 8 ~ 14μm
- Thermal Sensitivity (NETD): ≤40mK @25°C
- Frame Rate: 50fps for 640(W)x512(H))
- Data Interface: USB YUY2 format
- Lens Mount: Varies by lens option
- Fixed Focus Lenses Option: FL9.1 / FL13 / FL19 / FL25 / FL35 / FL50

FL (mm)	9.1mm	13mm	19mm	25mm	35mm	50mm
FOV (H)	45.76°	31.05°	21.76°	17.46°	12.52°	8.78°
FOV (V)	37.31°	25.1°	17.48°	14.01°	10.03°	7.03°

APPLICATION

- Thermography / Outdoor Night Vision / ADAS / Smart Building
- Security / Machine Vision / Bioenergy Detection / Thermal Inspection

FEATURE

- **Resolution:** A 640x512 pixel sensor array offers high thermal image clarity and detail for precise analysis.
- **Thermal Sensitivity:** NETD ≤40mK, high sensitivity ensures accurate detection of temperature differences.
- **Compact and Lightweight:** Designed for easy integration into various systems, such as drones, surveillance cameras, and industrial inspection tools.
- **Uncooled Technology:** Utilizes a microbolometer or other similar uncooled infrared detector, making it more energy-efficient and cost-effective compared to cooled counterparts.
- **Rugged and Reliable:** Suitable for harsh environments.
- **Cost-Effective:** Lower initial and maintenance costs compared to cooled thermal cameras.

INTRODUCTION

GTCM300K50U Uncooled Thermal Camera Module is a specialized imaging device that captures infrared radiation, enabling thermal imaging without requiring cryogenic cooling. This is suitable for use in various industries due to its compact design, reliability, and ability to operate in diverse environmental conditions.

Applications commonly used in surveillance and security include night vision and all-weather monitoring. In industrial inspection, they are utilized for identifying thermal anomalies in machinery or electrical systems. In the medical and research fields, they are employed for temperature measurements. In aerospace and defense, they serve purposes such as targeting, navigation, and situational awareness.

SPECIFICATIONS

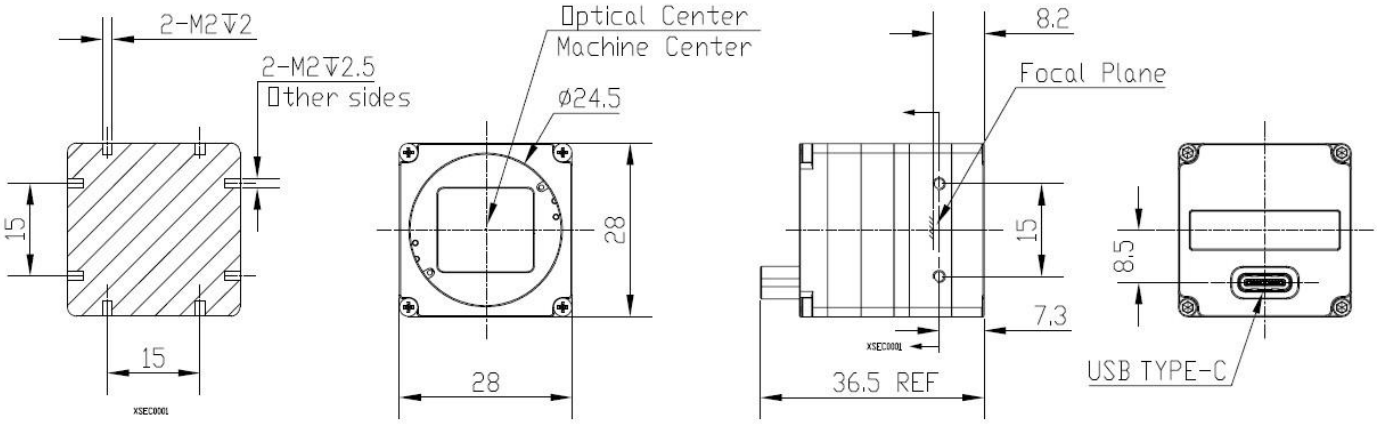
Model	GTCM300K50U
Detector Parameter	
Sensor	Uncooled VOx infrared detector, ceramic package
Image Pixels & Resolution	640(W) x 512(H)
Pixel Size	12μm
Thermal Sensitivity (NETD)	≤40mK @25°C
Spectral Band	8μm ~14μm
Image Processing & Adjustment	
Color Palette	Black Hot, White Hot, Iron Red, Rainbow, 10 in total
Special Function	Non-uniformity correction, X and Y directions mirroring
Thermal Time Constant	<12ms
Image Transfer Rate	50fps @640x512
Power & Interface	
Operating Voltage	DC 5V (4V~5.5V DC)
Power Consumption	≤1.2W
Data Interface	USB
Connecting Port	USB Type C
Communication	UART
Operating System Request	UVC (USB Video Class) Compliant support (no drivers needed, OTG)
Environmental Conditions	
Operating Temperature	-40°C ~ 80°C
Storage Temperature	-45°C ~ 85°C
Physical Feature	
PCBA Dimensions (exclude lens)	28x28x36.5mm
Weight (exclude lens)	≤46g
Lens	
Lens Parameters	Default: FL9.1mm Optional: FL13 / FL19 / FL25 / FL35 / FL50
Lens Holder	Varies by lens option

Note:

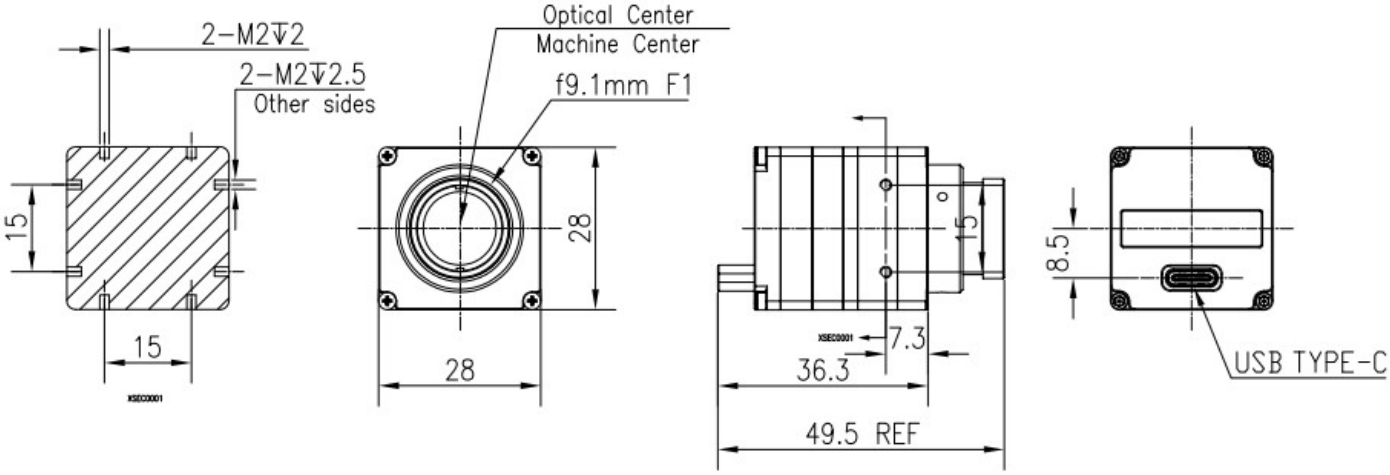
Product images are for reference only. Specifications are subject to change without notice due to continuous product improvement. For the latest information, please contact us.

DIMENSIONS

without FL



with FL9.1mm (default)



with FL25mm (optional)