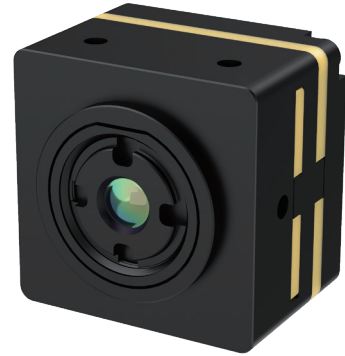


Turing L256

Uncooled Infrared Thermal Module



• Pixel Pitch 12 μm • Resolution 256 \times 192

Product Introduction

The Turing L256 uncooled infrared thermal module utilizes an advanced 256 \times 192 wafer-based detector. Its integrated 18 mm \times 18 mm design sets a new standard for Size, Weight, and Power (SWaP³) in the OEM core industry and is applicable in industrial, electrical, security, and machine vision fields. It provides an excellent miniaturized solution for consumer products and is an ideal choice for low-cost applications.

Product Highlights



Compatibility by Design

- 256 \times 192 resolution, 18 mm \times 18 mm dimensions, mechanically compatible with the Turing L384 for seamless design integration



Excellent Performance

- Wide temperature measurement range of -20 $^{\circ}\text{C}$ to +550 $^{\circ}\text{C}$ to meet diverse application needs



Versatile Options

- FoV options from 20 $^{\circ}$ to 90 $^{\circ}$; expanded interface support for DVP and USB

Product Parameters

Specifications

Detector Type	VOx uncooled infrared focal plane detector
Spectral Range	8 μm - 14 μm
Pixel Pitch	12 μm
Resolution	256×192
NETD	≤50 mK @ 25°C
Detector Frame Rate	25 Hz (Temperature measurement), 50 Hz (Imaging)

Image Adjustment

Brightness / Contrast Adjustment	Manual mode / Automatic mode
Polarity	Black hot / White hot
Pseudocolor	Supported
Crosshair	Display / Hide / Move
Image Processing	Digital filtering noise reduction / Digital detail enhancement
Nonuniformity Correction	Shutter correction
Image Mirroring	Left/Right / Up/Down / Diagonal
Focusing Method	Athermalized prime lens

Temperature Measurement

Temperature Measurement Range	High image quality: -20°C to 150°C, wide range: 100°C to 550°C
Temperature Measurement Accuracy (Typical value)	±3°C or ±3% of the reading (whichever is greater) @ ambient temperature -20°C to 60°C

Electrical Parameters

Power Supply Voltage (Typical)	3.8 V to 5.2 V DC / 1.8 V/3.3 V
Typical Power Consumption @ 25°C	≤0.35 W
Analog Video	P format
Digital Video	LVCOS/BT.601/BT.1120 (Imaging) / USB2.0
Serial Communication Interface	UART/USB

Physical Characteristics (Excluding Lens and Flange)

Dimensions (W×L×H)	18×18mm
Weight (with 3.22mm lenses)	8.7g

Optional Lenses

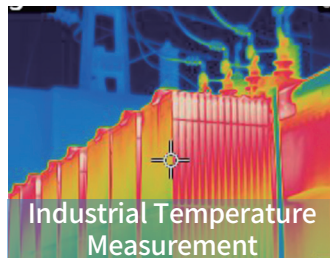
Lens (mm)	2/3.2/7/10
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Environmental Adaptability

Operating Case Temperature	-20°C - 60°C
Storage Case Temperature	-45°C - +85°C
Humidity	5% to 95%, non-condensing
Vibration	6.06 g, random vibration, all axes
Shock	80 g @ 4 ms, sawtooth waveform, 3 axes/ 6 directions

*This information is for reference only. Images and technical specifications are subject to change without notice.

Applications



Company Profile

Raytron Microelectronics Co., Ltd. is a wholly-owned subsidiary of Raytron Technology Co., Ltd., providing global customers with infrared detectors, core modules, and industry solutions.

Our products are widely used in various fields, including infrared temperature measurement, night vision observation, machine vision, intelligent driving, Commercial Drone, smart industry, security monitoring, Internet of Things, medical epidemic prevention and gas detection.

With the mission of "to create incremental value for customers with technological advancements", we are committed to leaving a name in the history of constantly expanding human perception capabilities.



Official Website



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