Raythink

Turing A640
Uncooled Infrared Module (Temperature Measurement)

Turing A640 uncooled infrared module is equipped with a 640×512 ceramic-packaged infrared detector. It can not only provide clear images and accurate temperature data but also be equipped with multiple serialized lenses and various kinds of user extension components for customers to select. It can be applied in many fields such as industrial and electrical temperature measurement, security, and machine vision.

Product Highlights

Multiple Selections

- Provide 10+ athermalized lenses applicable to different distance apps.

Excellent Temperature Measurement Characteristics

- Measurement range of -20°C~+550°C;Provide precise and rapid temperature assessment capability.

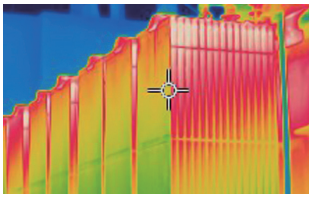
Flexible Extension

- Flexible USB, MIPI, DVP, LVDS, Camera Link and analog video output interfaces,Provide SDK to support secondary development.

Specifications

Model	Turing A640 Temperature Measurement
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	640×512
Pixel Pitch	12μm
Frame Rate	25Hz
Spectral Band	8~14μm
NETD	⩽50mK@25°C (⩽40mK, optional)
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Automatic/Linear
Polarity	Black-hot/White-hot
Palette	Support
Reticle	Display/Blank/Move
Digital Zoom	1.0~4.0× continuous zoom (step size: 0.1)
Image Processing	Tecless Scenario-based non-uniformity correction, digital filtering noise reduction, and digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range (Typical)	4~5.5V DC 3.5~18V DC supported by user extension components
Power Consumption (Typical, @25°C, Without Expansion Board)	＜0.7W
Power Protection	Overvoltage, undervoltage, and reverse connection supported by user extension components
Interface	
Digital Video	BT.656/BT.1120/14Bit or 8Bit LVCMOS/LVDS
Analog Video	1-channel PAL system
Extension Components	MIPI/USB/Camera Link/Analog video/BT.656/LVDS
Serial Communication Interface	UART (3.3V)/RS232
Temperature Measurement Characteristics	
Measurement Range	For measurement series, -20°C~+150°C, +100°C~+550°C
Measurement Accuracy	For temperature measurement series, ±3°C or ±3% of reading at ambient temperature of -20°C~+60°C
Measurement Tool	Secondary analysis of points, lines, and areas
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	26mm×26mm×19.2mm
Weight (Without Lens and Extension Components)	20g±3g
Environment Adaptability	
Operating Temperature	-20°C~60°C
Storage Temperature	-45°C~+85°C
Humidity	5~95%, non-condensing
Vibration	6.06g, random vibration, all axes
Impact	80g, 4ms, final peak sawtooth wave, three axes and six directions

Applications



Industrial Temperature Measurement

Electrical Temperature Measurement

UAV

Security Monitoring

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