



Turing A640

Uncooled Infrared Module (Imaging)

Turing A640 uncooled infrared module is equipped with a 640×512 ceramic-packaged infrared detector. It can not only provide clear images but also be equipped with multiple serialized lenses and various kinds of user extension components for customers to select. Widely applied to fields of outdoor observation, integrated pods and driving assistance.



Product Highlights

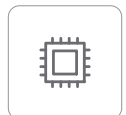
Multiple Selections

- Provide 10+ athermalized lenses applicable to apps with different imaging distances.



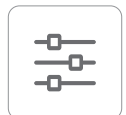
Excellent Performance

- Support shutterless algorithm with a max frame rate of 50Hz to provide a smooth and continuous user experience.



Flexible Extension

- Provide multiple interface options such as USB, MIPI, DVP, LVDS, Camera Link and analog video, and optionally provide SDK to support secondary development.



Specifications

Model	Turing A640 Imaging
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	640×512
Pixel Pitch	12μm
Frame Rate	50Hz
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	Shutterless 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)	<0.6W
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
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	26mm×26mm×19.2mm
Weight (Without Lens and Extension Components)	20g±3g
Environment Adaptability	
Operating Temperature	-40°C~+80°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



UAV



Outdoor Observation



Security Monitoring



Driving Assistance

Raythink Technology Co., Ltd.

Company Address: No.5 Wanshoushan Road, Fulaishan Street, Yantai Area of China (Shandong) Pilot Free Trade Zone Postal Code: 264000
Official Website: <http://www.raythink-tech.com> Service Email: sales@raythink-tech.com

The information is for illustrative purposes only. The pictures and technical specifications are subject to change without notice. Sample No.: O2024-Turing A640-2P001