

VIM-JM609A1C 640 Uncooled Infrared Camera

Product Datasheet · V1.0 · English translation for export reference

1. Overview

The VIM-JM609A1C is a compact uncooled long-wave infrared (LWIR) camera core based on a vanadium oxide (VOx) microbolometer detector. It operates in the 8–14 μm spectral band and supports analog CVBS video as well as USB 2.0 video output with UART 3.3 V TTL control. The module is designed for integration into thermal imaging products such as industrial inspection equipment, observation devices, security systems and UAV payloads.

2. Camera Specifications

2.1 Detector

Sensor type	Vanadium oxide (VOx)
Image size	640 × 512
Pixel size	12 μm
Response band	8 – 14 μm
NETD	$\leq 40 \text{ mK}$
Frame rate	50 Hz

2.2 Image Processing & Functions

Defective pixel correction	Supported
Image detail enhancement	Supported
Image denoising	Supported
AGC mode	Histogram
Startup time	$\leq 5 \text{ s}$
Electronic zoom	$\times 1 - \times 4$, 0.1 step
Brightness adjustment	Supported
Contrast adjustment	Supported
Pseudo color modes	White hot, black hot, red hot, rainbow, green hot, iron red
Image calibration	Manual / automatic (with shutter) / background

2.3 Power

Power supply	4.5 – 18 V DC
Power consumption	$\leq 0.6 \text{ W}$ (default); $\leq 0.6 \text{ W}$ (USB UVC)

2.4 Interfaces

Video interface	CVBS (default) / USB 2.0
Control interface	UART 3.3 V TTL
Output resolution	720 × 576 (CVBS); native resolution (USB)

2.5 Environmental

Operating temperature	-40 °C to +60 °C
Storage temperature	-50 °C to +70 °C
Storage humidity	< 90% RH
Vibration	Sinusoidal vibration, 10 m/s ² , 3 axes
Shock	Half-sine, 15 g / 11 ms, 3 axes, 6 directions

2.6 Physical

Weight	≤ 30 g (without lens)
Dimensions (without lens)	21 mm × 21 mm × 34.7 mm

3. Pin Description

NO	Name	Type	Description
1	UART_RXD	IN	UART receive, 3.3 V level
2	UART_TXD	OUT	UART transmit, 3.3 V level
3	CVBS	OUT	Analog video output
4	GND	POWER	Power supply negative terminal
5	VIN	POWER	Power supply positive terminal, 4.5 – 18 V

4. Ordering & Compliance

Model	VIM-JM609A1C
Trade terms	EXW / FOB Hong Kong
MOQ / Lead time / Payment	Contact for details
Certifications	Contact for details
Export compliance	Products may be subject to export controls in certain regions. Confirm with sales before ordering.

Important: This English datasheet is prepared from the Chinese product manual V1.0 for customer reference. Confirm the final English specifications, certifications and export classification with the factory/sales team before production orders.

5. Revision History

Version	Date	Description
V1.0	—	Initial release

VIM Thermal · Uncooled Infrared Imaging

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