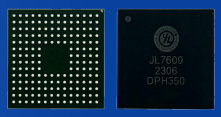
星航通信
SATNAVCOM

Expert in Infrared Thermal Imaging Technology
& RF-Microwave Products

JL7609 Series Infrared Thermal Image Processing Chip



ASIC Technical Data Sheet

Features

- A core component of a single-chip, highly integrated, low-power infrared application system solution
- Supports imaging with detectors of various resolutions up to 640x512 @ 60 Hz
- Supports multiple digital video output formats
- Supports real-time 3D noise reduction and Contrast Enhancement (ACE) algorithm
- High frame rate: 640×512 @ 60 Hz, 384×288 @ 120 Hz
- Embedded 32-bit low-power processor for convenient secondary development

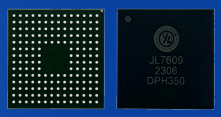
Applications

Small volume and low power consumption infrared thermal imaging module
Uncooled Portable Thermal Imager / Infrared image capture card

Description

A dedicated chip designed for signal processing and control in uncooled infrared thermal imaging camera systems. It enhances 3D noise reduction algorithms, image Detail Enhancement (DEE) algorithms, and Active Contrast Enhancement (ACE) algorithms. It supports mainstream domestic and international detectors with resolutions of 640×512 and below, and supports detector Non-uniformity Correction (NUC). It supports complex interface displays and On-Screen Display (OSD) menus, enabling customized interface development. Featuring a low-power design and rich peripheral interfaces, it can directly drive displays of various specifications. It provides a complete low-power, small-form-factor, high-performance, single-chip infrared handheld solution, facilitating rapid product and application development for customers.

JL7609 Series Infrared Thermal Image Processing Chip



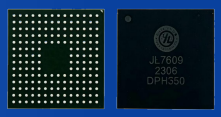
ASIC Product Specification

Technical Specifications

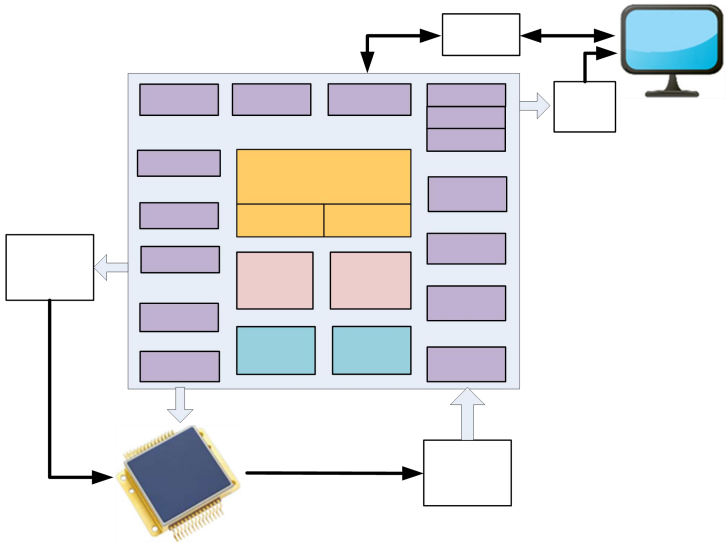
Detector Type	
Resolution	Max. 640×512 and lower resolutions
Imaging Frame Rate	640×512：50/60 Hz，25/30 Hz 640×480：50/60 Hz，25/30 Hz
Supported Detectors	Compatible with mainstream domestic and foreign 12μm and 17μm uncooled infrared detectors with resolution of 640×512 and below
Main Parameters	
Image Processing	Integrated infrared-specific Image Signal Processor (ISP), supporting NUC (Non-Uniformity Correction), bad pixel replacement, 3D denoising, Digital Detail Enhancement (DDE), wide-range Auto Gain Control (AGC), and Active Contrast Enhancement (ACE) algorithms, etc.
Core	Integrated 32-bit dedicated MCU with watchdog, fast interrupt, and timer support; on-chip 128KB RAM
Interfaces	2 × UART, 1 × SPI, 2 × I2C, GPIO, etc.
Temperature Measurement	Supports human body and industrial temperature measurement, providing real-time single-point/multi-point temperature data output; also offers full-frame temperature measurement SDK for secondary development
Auto Focus (AF)	Built-in auto-focus engine
Hot Spot Tracking	Supports hardware-based real-time hot spot tracking and high-temperature alarm
Output Interfaces	Supports dual-channel DVP digital video output, and standard video output interfaces such as BT601/656
Display Output	Supports arbitrary aspect ratio scaling, up to 1.3 megapixel RGB display; 1~16x continuous electronic zoom; supports two-layer OSD for boot screen and UI development
I/O Voltage	1.8 V / 3.3 V; some I/Os support 1.8 V / 3.3 V bank voltage configuration
Typical Power Consumption	300mW
Operating Temp	Operating Temperature: -40℃~ +85℃
Package	BGA180，12×12 mm，pitch: 0.8 mm

JL7609 Series Infrared Thermal Image Processing Chip

ASIC Product Specification



Block Diagram

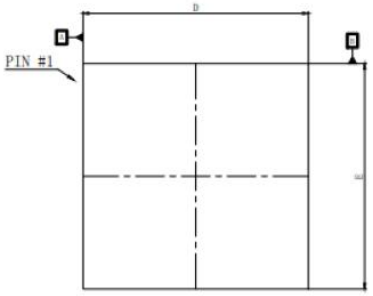


Pin Maps

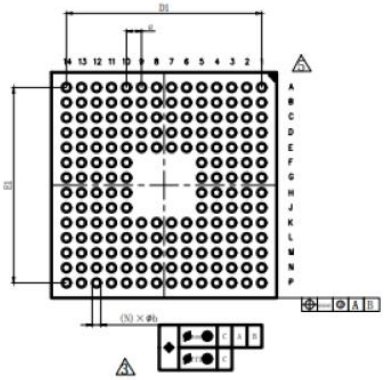
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	A1 VSS	A2 IRS_RST_P	A3 IRS_SERDAT_P	A4 IRS_GPO1_P	A5 IRS_GPO3_P	A6 IRS_INT_P	A7 IRS_MC_P	A8 IRS_GPO0_P	A9 IRS_GPO2_P	A10 GPIO26_P	A11 CLK_OUT_P	A12 SPI1_TXD_P	A13 SPI1_CLK_P	A14 VSS
B	B1 TRST_N_P	B2 TDI_P	B3 TCK_P	B4 ADC0_D7_P	B5 ADC0_D5_P	B6 ADC0_D3_P	B7 ADC0_D1_P	B8 ADC0_D10_P	B9 VSS	B10 GPIO28_P	B11 RESET_N_P	B12 SPI1_CS_P	B13 SPI1_RXD_P	B14 SCL0_P
C	C1 VSS_T0	C2 TMS_P	C3 TDO_P	C4 ADC0_D8_P	C5 ADC0_D13_P	C6 ADC0_D11_P	C7 ADC0_D9_P	C8 ADC0_D12_P	C9 VSS	C10 GPIO30_P	C11 GPIO29_P	C12 UART1_RXD_P	C13 UART1_TXD_P	C14 SDA0_P
D	D1 TEST_EN_P	D2 PLL_BYPASS_P	D3 VSS_T1	D4 ADC0_D6_P	D5 ADC0_D4_P	D6 ADC0_D2_P	D7 ADC0_D0_P	D8 ADC0_CLK_P	D9 VSS	D10 GPIO27_P	D11 GPIO31_P	D12 UART0_RXD_P	D13 UART0_TXD_P	D14 SCL1_P
E	E1 PLL_VSSD	E2 PLL_VSS	E3 PLL2_VDD	E4 VDDIO1	E5 VSS	E6 VDDIO1	E7 VSS	E8 VSS	E9 VSS	E10 VSS	E11 FLASH_VSS	E12 FLASH_VDD	E13 FLASH_VDD	E14 SDA1_P
F	F1 PLL_VDD33	F2 PLL_AVSS	F3 PLL2_AVDD	F4 VDDIO1	F5 VDD					F10 VSS	F11 VSS	F12 DDR_VSS	F13 VSS	F14 VSS
G	G1 PLL1_VDD	G2 PLL_VSS	G3 VSS	G4 VDD	G5 VDD					G10 VSS	G11 DDR_VSS	G12 DDR_VDD	G13 DDR_VSS	G14 VSS
H	H1 PLL1_AVDD	H2 PLL_AVSS	H3 VDD	H4 VSS	H5 VDD					H10 VSS	H11 DDR_VDDQ	H12 DDR_VSS	H13 VSS	H14 VSS
J	J1 NC	J2 CLK_IN	J3 VDD	J4 VDD	J5 VSS					J10 DDR_VDDQ	J11 DDR_VSS	J12 DDR_VDD	J13 DDR_VSS	J14 VSS
K	K1 VDD_BK2_CFG	K2 VSS	K3 VDD	K4 VSS	K5 VDD	K6 VDD	K7 VDDIO2	K8 VSS	K9 VDDIO2	K10 VSS	K11 DDR_VDDQ	K12 DDR_VSS	K13 VSS	K14 VSS
L	L1 CIF_PCLK_P	L2 VDD_BK1_CFG	L3 VSS	L4 VDD	L5 VSS	L6 VDDIO2	L7 VSS	L8 VDDIO2	L9 VSS	L10 DDR_VDDQ	L11 DDR_VSS	L12 DDR_VDD	L13 CIF_D16_P	L14 CIF_D18_P
M	M1 CIF_HREF_P	M2 VSS	M3 VDD_BK1_CFG	M4 VDD_BK1_CFG	M5 VDD	M6 VSS	M7 VDDIO2	M8 VSS	M9 VSS	M10 VSS	M11 DDR_VDD	M12 VSS	M13 CIF_D20_P	M14 CIF_D22_P
N	N1 CIF_HSYNC_P	N2 CIF_D1_P	N3 CIF_D0_P	N4 CIF_D2_P	N5 CIF_D6_P	N6 CIF_D8_P	N7 CIF_D14_P	N8 VSS	N9 VSS	N10 VSS	N11 VSS	N12 CIF_D17_P	N13 CIF_D19_P	N14 CIF_D23_P
P	P1 VSS	P2 CIF_VSYNC_P	P3 CIF_D3_P	P4 CIF_D4_P	P5 CIF_D7_P	P6 CIF_D5_P	P7 CIF_D15_P	P8 CIF_D13_P	P9 CIF_D11_P	P10 CIF_D9_P	P11 CIF_D12_P	P12 CIF_D10_P	P13 CIF_D21_P	P14 VSS

Outline Drawing:

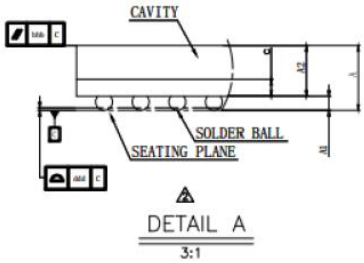
symbol	Dimension in mm		
	MIN	NOM	MAX
A	1.250	1.350	1.450
A1	0.300	0.350	0.400
A2	0.950	1.000	1.050
c	0.260	0.300	0.340
D	11.900	12.000	12.100
E	11.900	12.000	12.100
D1	—	10.400	—
E1	—	10.400	—
e	—	0.800	—
b	0.400	0.450	0.500
bbb	0.100		
ddd	0.100		
eee	0.150		
fff	0.080		
N	180		
MD/ME	14/14		



Top View

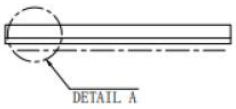


Bottom View



DETAIL A

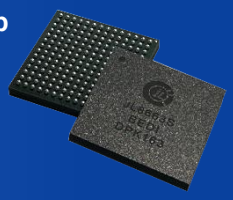
3:1



Side View

西安星航通信科技有限公司 XI'AN SATNAVCOM TECHNOLOGY CO., LTD.	PART NAME		
	Infrared Image Processor		
	JL7609	REV	DATE
Tel: +86 135 1916 6509		V1.0	2021.7.19
Website: www.mwglobe.com		SCALE 1:1	
E-Mail: sales@mwglobe.com			

JL8603S Series IR Imaging Processing Chip



ASIC Technical Data Sheet

Features

- New architecture for infrared AI ISP
- Supports imaging with detectors of various resolutions up to 640x512 @ 60 Hz
- MetaVS Intelligent Visual Enhancement Algorithm
- Built-in full-frame temperature measurement algorithm engine
- High integration, high compatibility

Applications

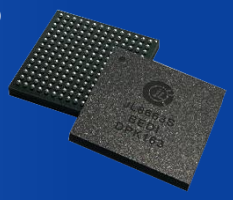
IR handheld	Airborne camera	spaceborne	industrial
Search and rescue		outdoor	

Description

A dedicated processing chip for uncooled infrared imaging systems, featuring a brand-new AI ISP architecture and a self-developed MetaVS Intelligent Visual Enhancement Engine. It achieves full-link intelligent processing for uncooled infrared on a single chip. Supporting high-definition imaging at multiple resolutions, it is equipped with functions such as scene adaptive enhancement, spatio-temporal joint noise reduction, full-frame temperature measurement, hotspot tracking, and super-resolution reconstruction. The chip combines low power consumption, small form factor, high integration, and high compatibility, providing customers with a one-stop infrared system solution for rapid implementation in differentiated high-end applications such as handheld devices, security, industry, airborne, and spaceborne systems.

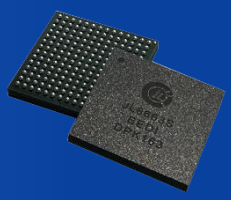
JL8603S Series IR Imaging Processing Chip

ASIC Product Specification

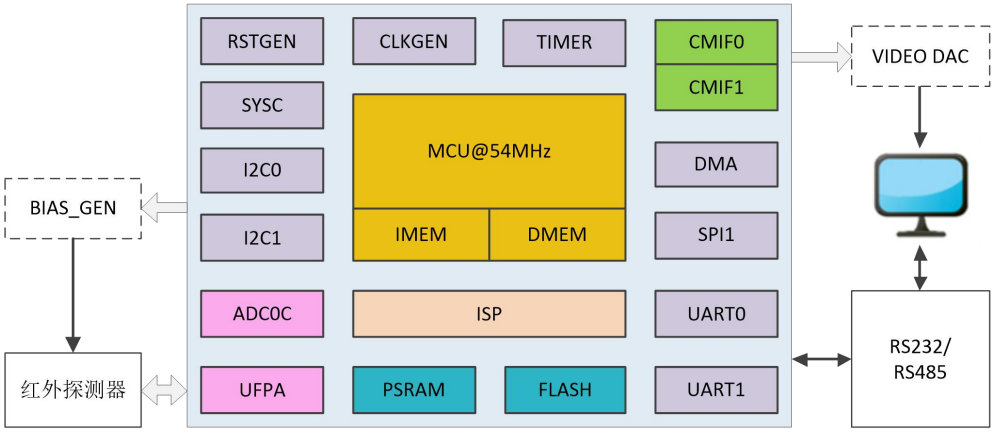


Technical Specifications

Detector Type	
Resolution	Maximum support for 640×512 and lower resolutions
Imaging Frame Rate	640×512：50/60 Hz，25/30 Hz 640×480：50/60 Hz，25/30 Hz
Supported Detectors	Directly compatible with mainstream domestic and foreign uncooled infrared detectors with 640×512 or lower resolutions
Main Parameters	
Image Processing	Non-uniformity correction (NUC), bad pixel correction, AI denoising, stripe filtering, scene adaptive enhancement, spatio-temporal joint denoising, super-resolution reconstruction, MetaVS intelligent visual enhancement
Core	Integrated 32-bit dedicated MCU with watchdog, fast interrupt, and timer support; on-chip 128KB RAM
Interfaces	2 × UART, 1 × SPI, 2 × I2C, GPIO, etc.
Temperature Measurement	Supports multi-point and full-frame temperature measurement
Auto Focus (AF)	Built-in auto-focus engine
Hot Spot Tracking	Supports hardware-based real-time hot spot tracking and high-temperature alarm
Output Interfaces	Supports dual-channel DVP digital video output; compatible with BT601/BT656/BT1120 standard video output interfaces; supports Y8+Y16 left/right and up/down stitching output
Display Output	Supports arbitrary aspect ratio scaling; maximum 1920×1080 RGB display resolution; 1~16x continuous electronic zoom; supports two-layer, up to 256-color OSD for boot screen and UI development
I/O Voltage	1.8V / 3.3V; some I/Os support 1.8V / 3.3V bank voltage configuration
Typical Power Consumption	260mW
Operating Temp	Operating Temperature: -40℃~ +85℃
Package	BGA196, 12×12mm, pitch: 0.8mm



Block Diagram

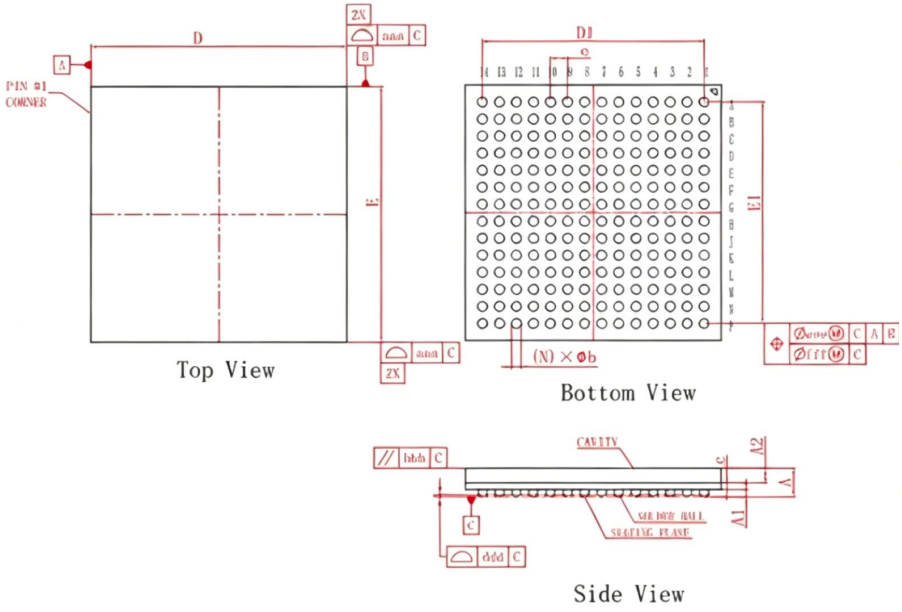


Pin Maps

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	A1 VSS	A2 IRS_RST_BK3	A3 IRS_SERDAT_BK3	A4 IRS_GPO1_BK3	A5 IRS_GPO3_BK3	A6 IRS_INT_BK3	A7 IRS_MC_BK3	A8 IRS_GPO0_BK3	A9 IRS_GPO2_BK3	A10 GPIO26_BK1	A11 CLK_IN_XTALOUT_OSC	A12 SPI1_TXD_BK1	A13 SPI1_CLK_BK1	A14 VSS
B	B1 TRST_N_3V3	B2 TDI_3V3	B3 TCK_3V3	B4 ADC0_D7_BK3	B5 ADC0_D6_BK3	B6 ADC0_D3_BK3	B7 ADC0_D1_BK3	B8 ADC0_D10_BK3	B9 VSS	B10 GPIO28_BK2	B11 RESET_N_3V3	B12 SPI1_CS_BK1	B13 SPI1_RXD_BK1	B14 SCL0_BK1
C	C1 GPIO24_BK1	C2 TMS_3V3	C3 TDO_3V3	C4 ADC0_D8_BK3	C5 ADC0_D13_BK3	C6 ADC0_D11_BK3	C7 ADC0_D9_BK3	C8 ADC0_D12_BK3	C9 VSS	C10 GPIO30_BK2	C11 GPIO29_BK2	C12 UART1_RXD_BK1	C13 UART1_TXD_BK1	C14 SDA0_BK1
D	D1 TEST_EN_3V3	D2 PLL_BYPASS_3V3	D3 GPIO25_BK1	D4 ADC0_D5_BK3	D5 ADC0_D4_BK3	D6 ADC0_D2_BK3	D7 ADC0_D0_BK3	D8 ADC0_CLK_BK3	D9 VSS	D10 GPIO27_BK1	D11 GPIO31_BK2	D12 UART0_RXD_3V3	D13 UART0_TXD_3V3	D14 SCL1_BK2
E	E1 PLL_VSSD	E2 PLL_VSS	E3 PLL2_VDD	E4 VDD33	E5 VSS	E6 BK1_VDD	E7 VSS	E8 VSS	E9 VSS	E10 VSS	E11 FLASH_VSS	E12 FLASH_VDD	E13 FLASH_VDD	E14 SDA1_BK2
F	F1 PLL_VDD33	F2 PLL_AVSS	F3 PLL2_AVDD	F4 VDD33	F5 VDD	F6 CIF1_HREF_BK4	F7 CIF1_HSYNC_BK4	F8 CIF1_VSYNC_BK4	F9 CIF1_PCLK_BK4	F10 VSS	F11 VSS	F12 PSRAM_VSS	F13 VSS	F14 VSS
G	G1 PLL1_VDD	G2 PLL_VSS	G3 VSS	G4 VDD	G5 VDD	G6 CIF1_D0_BK4	G7 CIF1_D3_BK4	G8 CIF1_D6_BK4	G9 SPI0_CS_3V3	G10 VSS	G11 PSRAM_VSS	G12 VDD18	G13 PSRAM_VSS	G14 VSS
H	H1 PLL1_AVDD	H2 PLL_AVSS	H3 VDD	H4 VSS	H5 VDD	H6 CIF1_D1_BK4	H7 CIF1_D4_BK4	H8 CIF1_D7_BK4	H9 SPI0_CLK_3V3	H10 VSS	H11 VDD18	H12 PSRAM_VSS	H13 VSS	H14 VSS
J	J1 NC	J2 CLK_IN_XTALIN_OSC	J3 VDD	J4 VDD	J5 VSS	J6 CIF1_D2_BK4	J7 CIF1_D5_BK4	J8 SPI0_TXD_3V3	J9 SPI0_RXD_3V3	J10 VDD18	J11 PSRAM_VSS	J12 VDD18	J13 PSRAM_VSS	J14 VSS
K	K1 BK2_VDD	K2 VSS	K3 VDD	K4 VSS	K5 VDD	K6 VDD	K7 VDD_PSRAM	K8 VSS	K9 VDD_PSRAM	K10 VSS	K11 VDD18	K12 PSRAM_VSS	K13 VSS	K14 VSS
L	L1 CIF0_PCLK_BK4	L2 BK4_VDD	L3 VSS	L4 VDD	L5 VSS	L6 VDD_PSRAM	L7 VSS	L8 VDD_PSRAM	L9 VSS	L10 VDD18	L11 PSRAM_VSS	L12 BK3_VDD	L13 CIF0_D16_BK4	L14 CIF0_D18_BK4
M	M1 CIF0_HREF_BK4	M2 VSS	M3 BK4_VDD	M4 BK4_VDD	M5 VDD	M6 VSS	M7 VDD_PSRAM	M8 VSS	M9 VSS	M10 VSS	M11 BK3_VDD	M12 VSS	M13 CIF0_D20_BK4	M14 CIF0_D22_BK4
N	N1 CIF0_HSYNC_BK4	N2 CIF0_D1_BK4	N3 CIF0_D0_BK4	N4 CIF0_D2_BK4	N5 CIF0_D6_BK4	N6 CIF0_D8_BK4	N7 CIF0_D14_BK4	N8 VSS	N9 VSS	N10 VSS	N11 VSS	N12 CIF0_D17_BK4	N13 CIF0_D19_BK4	N14 CIF0_D23_BK4
P	P1 VSS	P2 CIF0_VSYNC_BK4	P3 CIF0_D3_BK4	P4 CIF0_D4_BK4	P5 CIF0_D7_BK4	P6 CIF0_D5_BK4	P7 CIF0_D15_BK4	P8 CIF0_D13_BK4	P9 CIF0_D11_BK4	P10 CIF0_D9_BK4	P11 CIF0_D12_BK4	P12 CIF0_D10_BK4	P13 CIF0_D21_BK4	P14 VSS

Outline Drawing:

Symbol	Dimension in mm		
	MIN	NOM	MAX
A	1.200	1.350	1.500
A1	0.300	0.350	0.400
A2	0.650	0.700	0.750
c	0.260	0.300	0.340
D	11.900	12.000	12.100
E	11.900	12.000	12.100
D1	---	10.400	---
E1	---	10.400	---
e	---	0.800	---
b	0.400	0.450	0.500
aaa	0.100		
bbb	0.100		
ddd	0.100		
eee	0.150		
fff	0.080		
N	196		



西安星航通信科技有限公司 XI'AN SATNAVCOM TECHNOLOGY CO., LTD.	PART NAME		
	Infrared Image Processor		
	JL8603S	REV	DATE
Tel: +86 135 1916 6509		V1.0	2025.4.9
Website: www.mwglobe.com		SCALE 1:1	
E-Mail: sales@mwglobe.com			

星航通信
SATNAVCOM

Expert in Infrared Thermal Imaging Technology
& RF-Microwave Products

Pod-mounted Infrared Thermal Imaging Module

IR module Technical Data Sheet



Features

- Uncooled infrared thermal imaging module
- 640×512 @ 50 Hz, 12μm pixel pitch
- MetaVS Intelligent Visual Enhancement Algorithm
- BT656 / DVP standard video output
- 26mm×26mm small form factor, high integration, low power

Applications

Airborne camera	spaceborne	Drone pod
Search and rescue	outdoor	

Description

This module is an integrated, low-power, high-performance professional infrared module with a built-in MetaVS Intelligent Visual Enhancement Algorithm. It is optimized for aerial perspectives and meets the application requirements of various large, medium, and small drone pods. The standard interface solution allows for easy and quick integration into various pod products.

Pod-mounted Infrared Thermal Imaging Module

IR module Product Specification



Technical Specifications

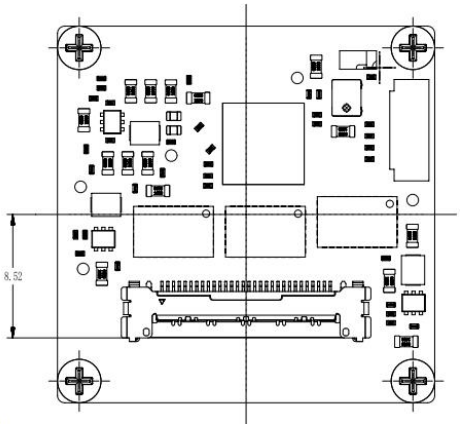
Category	Parameter	Specification
Detector	Detector type	Uncooled Vanadium Oxide (VOx)
	Resolution	640 × 512
	Pixel Pitch	12 μm
	Frame Rate	50 Hz
	NETD	≤ 30 mK @ F1.0 / 25°C
Main Parameters	Pseudo Color	Multiple adjustable palettes
	Digital Zoom	1×, 2×, 4× adjustable
	Image Processing	Non-uniformity correction (NUC) Image smoothing Image detail enhancement AI filter denoising Adjustable brightness & contrast Scene adaptive dimming algorithm
	Functional Modules	Hot spot tracking support Image flip (vertical / horizontal / diagonal)
	Field of View (FOV)	HFOV: 17.4°; VFOV: 14.0°
	Video Output Interface	Digital Video: Supports 8-bit/16-bit parallel CMOS interface, DVP timing @ 50Hz Supports BT.656 line-by-line output @ 50Hz
	Communication Interface	UART, 115200 bps
	Power Supply	5V ± 0.2V
Other Specifications	Power Consumption	≤ 800 mW
	Weight	≤ 90 g (including 25mm f/1.0 lens)
Environmental Adaptability	Operating Temperature	-40°C ~ +65°C

Pod-mounted Infrared Thermal Imaging Module

IR module Product Specification



Interface Location



Node Definition

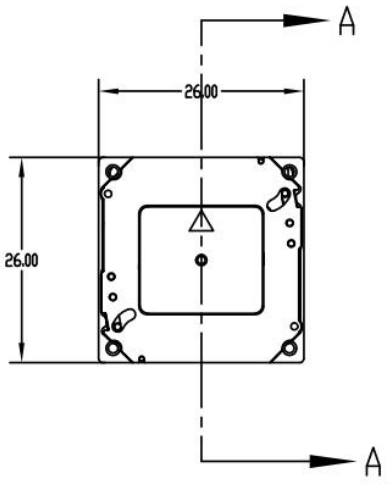
Pin No.	Signal Name	Type	Description	Remarks
1	DV14	Output	Digital Output (3.3V)	Data Signal
2	DV15	Output	Digital Output (3.3V)	Data Signal
3	DV0	Output	Digital Output (3.3V)	Data Signal
4	DV1	Output	Digital Output (3.3V)	Data Signal
5	DV2	Output	Digital Output (3.3V)	Data Signal
6	DV3	Output	Digital Output (3.3V)	Data Signal
7	DV4	Output	Digital Output (3.3V)	Data Signal
8	DV5	Output	Digital Output (3.3V)	Data Signal
9	DV6	Output	Digital Output (3.3V)	Data Signal
10	DV7	Output	Digital Output (3.3V)	Data Signal

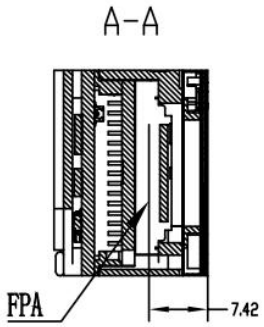


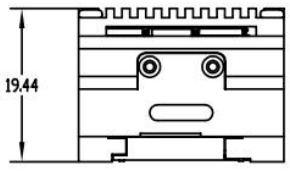
Node Definition

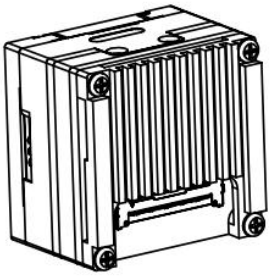
Pin No.	Signal Name	Type	Description	Remarks
11	DV8	Output	Digital Output (3.3V)	Data Signal
12	DV9	Output	Digital Output (3.3V)	Data Signal
13	DV10	Output	Digital Output (3.3V)	Data Signal
14	DV11	Output	Digital Output (3.3V)	Data Signal
15	DV12	Output	Digital Output (3.3V)	Data Signal
16	DV13	Output	Digital Output (3.3V)	Data Signal
17	Line_Valid	Output	Line Sync (3.3V)	Line Sync Signal
18	Frame_Valid	Output	Frame Sync (3.3V)	Frame Sync Signal
19	Clock	Output	Pixel Clock (3.3V)	Pixel Clock
20	UART0_TXD	Output	UART TX (3.3V)	UART Communication Interface
21	UART0_RXD	Input	UART RX (3.3V)	UART Communication Interface
22,23,24,25,26	VCC5V	Power Input	5V	-
27,28,29,30	GND	Power Ground	GND	-

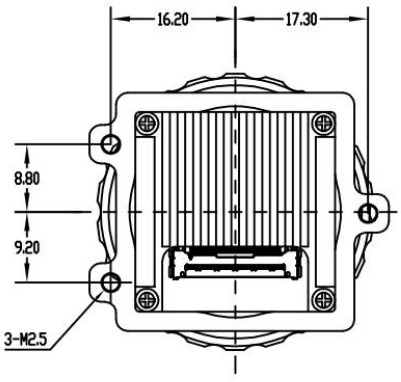
Outline Drawing:

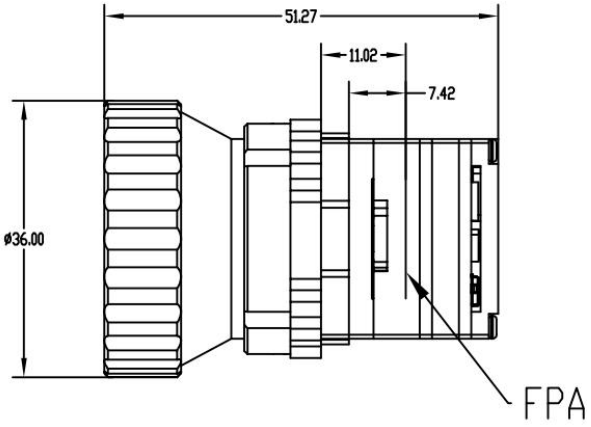


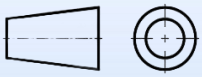










西安星航通信科技有限公司 XI'AN SATNAVCOM TECHNOLOGY CO., LTD.	PART NAME		
	Pod-mounted Infrared Thermal Imaging Module		
		REV	DATE
Tel: +86 135 1916 6509		V1.0	2026.4.1
Website: www.mwglobe.com		SCALE 1:1	
E-Mail: sales@mwglobe.com			

星航通信
SATNAVCOM

Expert in Infrared Thermal Imaging Technology
& RF-Microwave Products

FPV Infrared Thermal Imaging Module

IR module Technical Data Sheet



Features

- Uncooled infrared thermal imaging module
- 640×512 @ 50 Hz, 12um pixel pitch
- MetaVS Intelligent Visual Enhancement Algorithm
- Supports CVBS (PAL) or UVC output
- 21mm×21mm ultra-small form factor, lightweight, low power consumption

Applications

Airborne camera	spaceborne	Drone pod
Search and rescue	outdoor	

Description

This module is an integrated, low-cost, small-form-factor infrared vision camera module that provides a plug-and-play standard interface. With a built-in MetaVS Intelligent Visual Enhancement Algorithm, it delivers high-quality video for FPV applications. It comes standard with a 9.1mm field-of-view lens, meeting the requirements for various small UAV airspace reconnaissance applications.

FPV Infrared Thermal Imaging Module

IR module Product Specification



Technical Specifications

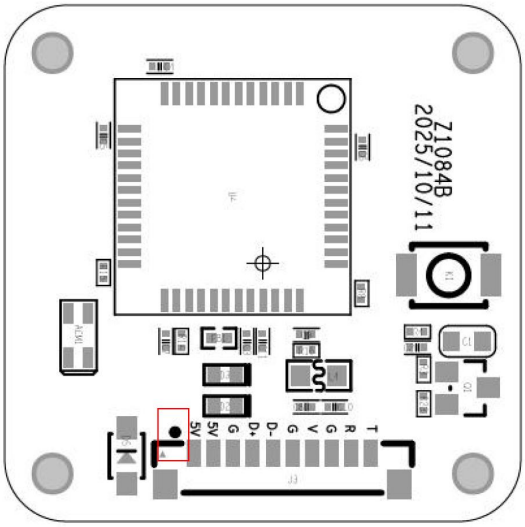
Category	Parameter	Specification
Detector	Detector Type	Uncooled Vanadium Oxide (VOx)
	Resolution	640 × 512
	Pixel Pitch	12 μm
	Frame Rate	50 Hz
	NETD	≤ 50 mK @ F1.0 / 25°C
Main Parameters	Pseudo Color	Multiple adjustable palettes (6 default options: Black Hot, White Hot, Hot Metal, Rainbow, Green, Red Hot)
	Digital Zoom	1×, 2×, 4×, 8× adjustable
	Image Processing	Non-uniformity correction (NUC) Image smoothing Image detail enhancement AI filter denoising Adjustable brightness & contrast Scene adaptive dimming algorithm
	Functional Modules	Hot spot tracking support Image flip (vertical / horizontal / diagonal, with latency)
	Field of View (FOV)	HFOV: 47.3°; VFOV: 37.8°
	Video Output Interface	PAL analog video (CVBS) or UVC output
	Communication Interface	UART, 115200 bps
	Power Supply	5V ± 0.2 V
Other Specifications	Power Consumption	≤ 1.1 W
	Weight	≤ 28 g (including 9.1mm f/1.0 lens)
Environmental Adaptability	Operating Temperature	-20°C ~ +60°C
	Storage Temperature	-40°C ~ +70°C

FPV Infrared Thermal Imaging Module

IR module Product Specification



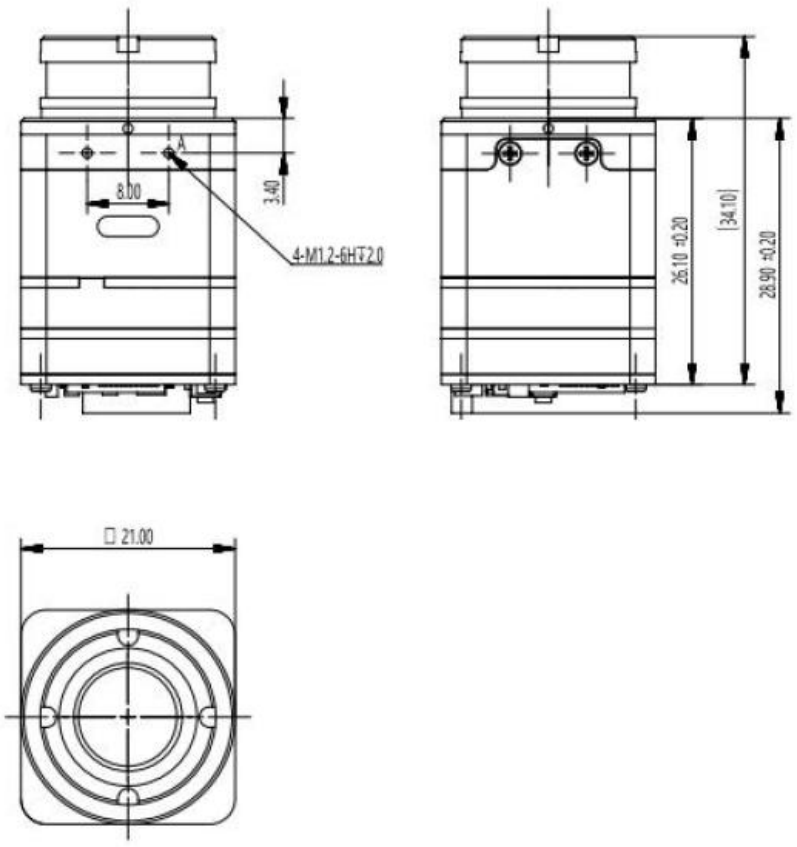
Interface Location



Node Definition

Pin No.	Signal Name	Description
1	VIN	Power Supply (+5V)
2	VIN	Power Supply (+5V)
3	GND	System Ground Reference
4	D-	USB Data Signal (Negative)
5	GND	System Ground Reference
6	D+	USB Data Signal (Positive)
7	GND	System Ground Reference
8	GND	System Ground Reference
9	RX	UART Communication (Receive)
10	TX	UART Communication (Transmit)

Outline Drawing:



西安星航通信科技有限公司 XI'AN SATNAVCOM TECHNOLOGY CO., LTD.	PART NAME		
	FPV Infrared Thermal Imaging Module		
		REV	DATE
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E-Mail: sales@mwglobe.com			