

SG-DTM06(03, 02)U(C, M)2-(T)x**12μm 640×512(384×288, 256×192) Compact Size Thermal Module**

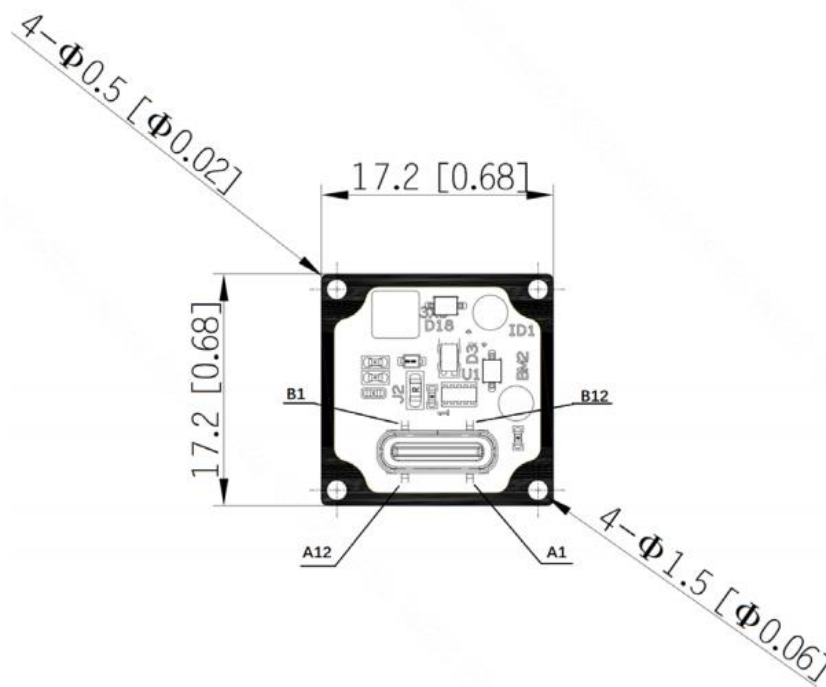
- 12μm 640×512(384×288, 256×192) high sensitivity Vox sensor
- 9.1/13/19/25mm(9.1/13mm, 4/7/10mm) athermalized lens
- Support up to 18 color palettes
- Temperature range: -20°C~+150°C & 100°C~550°C
- Support UART serial communication
- USB output by default, CVBS/Type-C/MIPI Optional
- Compact size: 17mm*17mm*Xmm
- Low consumption: ≤0.7W

Specification

Model Number	SG-DTM06U(C, M)2-x	SG-DTM06U(C, M)2-Tx	SG-DTM03U(C, M)2-x	SG-DTM03U(C, M)2-Tx	SG-DTM02U(C) 2-x	SG-DTM02U(C) 2-Tx
Thermal Module						
Image Sensor	Uncooled VOx microbolometer					
Pixel Interval	12μm					
Response Waveband	8μm to 14μm					
Max. Resolution	640×512		384×228		256×192	
Frame Rate(fps)	50	25	50	25	50	25
Lens (Focal Length)	9.1/13/19/25mm		9.1/13mm		4/7/10mm	
F Number	F1.0/ F1.0/ F1.1/ F1.2		F1.0		F1.0	
Field of View(H×V)	45.9°×36.9°/32.9°×26.6°/ 22.6°×18.2°/17.3°×13.8°		28.7°×21.7°/20.1°×15.1°		46.8°×34.1°/24.6°×18.5°/ 16.9°×12.8°	
Temp Measurement	N/A	Support	N/A	Support	N/A	Support
Temperature Measurement						
Temperature Range	LT Mode: -20°C~+150°C; HT Mode: 0°C~+550°C					
Measurement Error	Max (± 2°C, ± 2%); Operating Temp: -20°C~+50°C					
Image Display						
Image Adjustment	Brightness, Contrast, Sharpness					
Detail Enhancement	Support					
Gain	Auto/Manual					
Noise Reduction	2D/3D					
Flip	Support					
Mirror	Support					
Pseudo-color	18 Palettes of Color Adjustable					
Crosshair	Display/Disappear/Hide					
Image Processing	NUC Correction, Digital Noise Filter, DDE					

Video			
Video Output	UVC/ BT.656/MIPI/LVDS/CVBS		UVC/CVBS
Expansion Interface	USB/MIPI/CVBS/Type-C		USB/CVBS/Type-C
Serial Communication	UART Serial Port		
General			
Power	DC 4.5 ~ 5.5V; CVBS: DC 4.5–20V		
Power Consumption	≤0.7W@25°C	≤0.7W@25°C	≤0.55W@25°C
Working Temperature	-40°C~70°C		
Storage Temperature	-40°C~80°C		
Working Humidity	≤95% RH (Non-condensing)		
Shock	6.06g random, 3-axis, sine wave vibration		
Dimension	17.3mm*17.3mm*10.8mm (Without lens spacer ring tail plate)		
Weight	5g (Without lens spacer ring tail plate)		

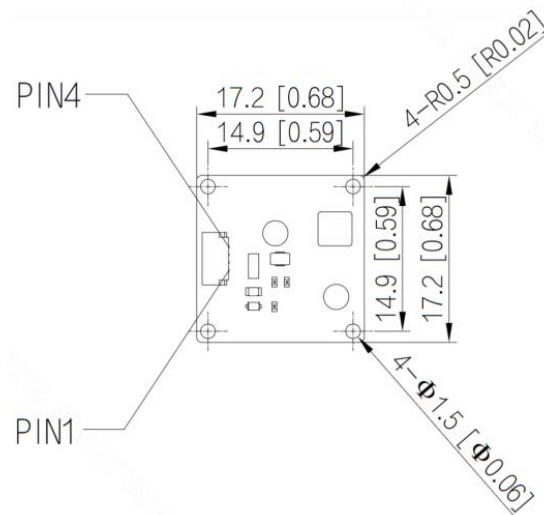
Interface Definition



USB Type-C Expansion Board (mm [inch])

Type	PIN Number	PIN Name	Description
WLUS-696A connector	A7, B7	USB_D-	USB 2.0 Data Negative
	A6, B6	USB_D+	USB 2.0 Data Positive
	A1, A12, B1, B12	GND	Ground
	A4, A9, B4, B9	+5V	Power Input (DC5V ±10%)

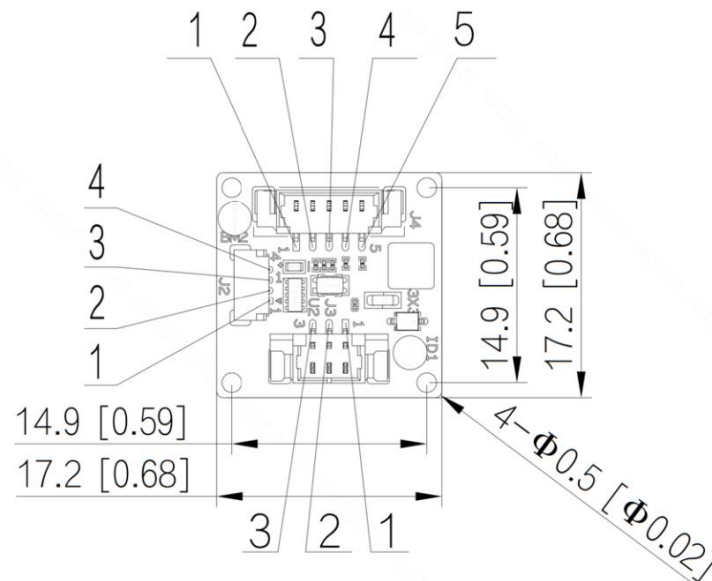
Note: J2 is a standard USB Type-C connector.



USB Vertical Plug Expansion Board (mm [inch])

Type	PIN Number	PIN Name	Description
0.8T-WT-NP connector	1	GND	Ground
	2	USB_DP	USB 2.0 Data Positive
	3	USB_DM	USB 2.0 Data Negative
	4	+5V	Power Input (DC5V $\pm$ 10%)

Note: J2 Vertical Socket: 4-pin, 0.8mm pitch, vertical mount, milky white color, surface-mount type.



CVBS expansion board (mm [inch])

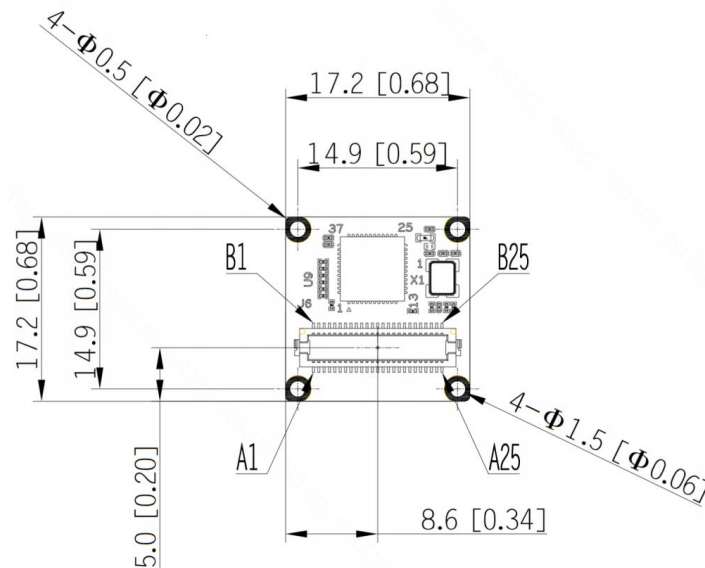
Supports two CVBS interfaces for selection

Type	PIN Number	PIN Name	Description
J3_3pin CVBS 1.25T-7-LT-3A connector	1	Power	Power Input (+4.5 ~20V)
	2	GND	Ground
	3	CVBS	Output CVBS video signal

Note: J3 white socket-1 row 3 columns-1.25mm-vertical-double-sided card hole-full package-pickup cap-mounting.

Type	PIN Number	PIN Name	Description
J4_5pin CVBS 1.25T-1-LT-5A connector	1	Power	Power Input (+4.5 ~20V)
	2	GND	Ground
	3	CVBS	CVBS video signal
	4	UART1_TXD_3V3	TTL level 3.3V
	5	UART1_RXD_3V3	TTL level 3.3V

Note: J4 white socket-1 row 5 columns-1.25mm-vertical-double side retaining holes-full package-pickup cap-mounting.



MIPI expansion board (mm [inch])

Type	PIN Number	PIN Name	Description
DF12NB-50DS-0.5V(51) connector	B1, B2	+5V	Power Input
	B3	+3.3V	Power Output
	A1,A2,A3,A5,A7,A17, A23,B4,B7,B17,B23	GND	Ground
	A6	BT656_CLK_3V3	BT656 Clock Signal
	A8	BT656_D1_3V3	BT656 Video Data Signal
	A9	BT656_D3_3V3	BT656 Video Data Signal
	A10	BT656_D5_3V3	BT656 Video Data Signal
	A11	BT656_D7_3V3	BT656 Video Data Signal
	B8	BT656_D0_3V3	BT656 Video Data Signal
	B9	BT656_D2_3V3	BT656 Video Data Signal
	B10	BT656_D4_3V3	BT656 Video Data Signal
	B11	BT656_D6_3V3	BT656 Video Data Signal
	B21	MIPI_O_CLK_N	MIPI Clock Signal
	A21	MIPI_O_CLK_P	MIPI Clock Signal
	B18	MIPI_O_DATA1_N	MIPI Data Signal
	B19	MIPI_O_DATA0_N	MIPI Data Signal
	A18	MIPI_O_DATA1_P	MIPI Data Signal
	A19	MIPI_O_DATA0_P	MIPI Data Signal

	A22	SPI_MOSI	Reserved SPI (3.3V)
	A12	SPI_CLK	Reserved SPI (3.3V)
	B22	SPI_MISO	Reserved SPI (3.3V)
	B12	SPI_CS _n	Reserved SPI (3.3V)
	B25	UART1_RXD_3V3	TTL level 3.3V
	A25	UART1_TXD_3V3	TTL level 3.3V
	A4,A13,A14,A15,A16, A20,A24,B13,B14,B15, B16,B20,B24	NC	NC

Note: Board to Board, 2 Rows 25 Columns, 0.5mm, Vertical Male Header, 5.00mm, Mounting

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*Design and specifications are subject to change without prior notification.

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