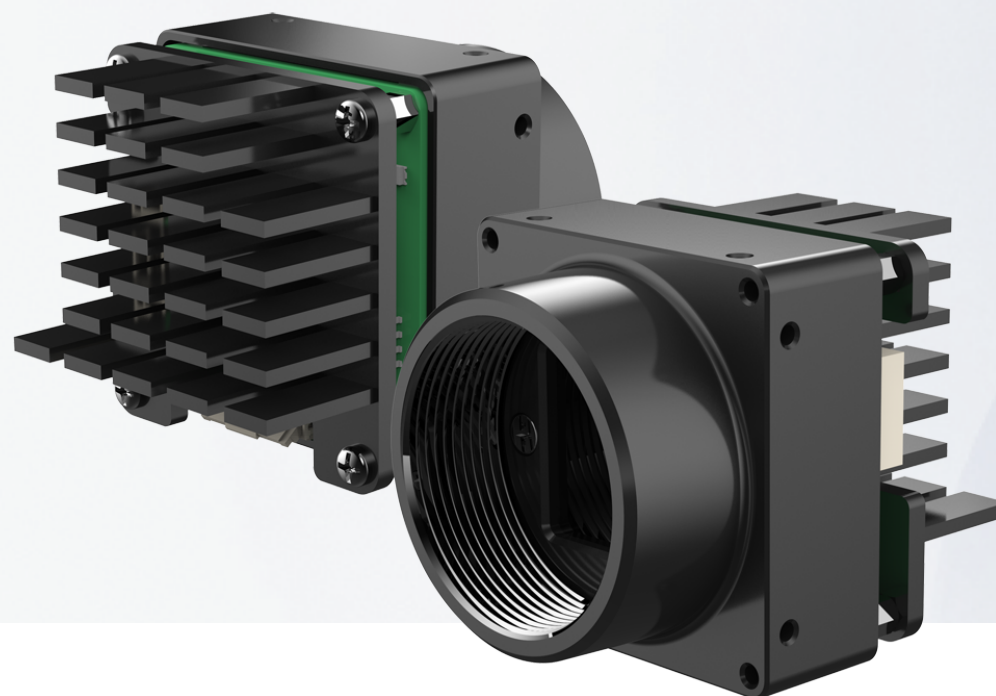


Board-level Series

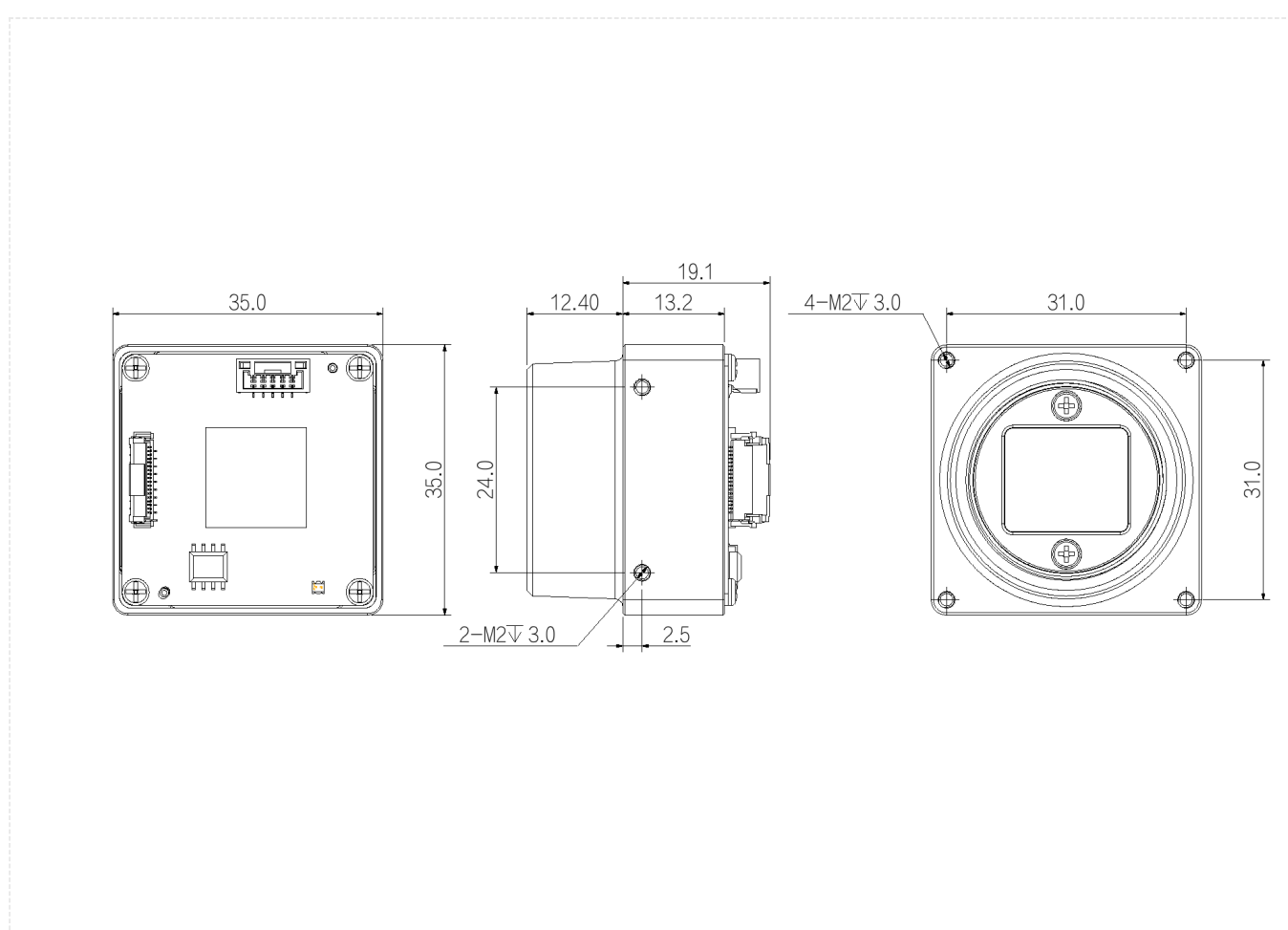
AB7A20MU102E



Features

- USB3.0 interface, 5Gbps theoretical transfer bandwidth, power supply via USB interface ;
- Compact design of 35mm*35mm*19mm;
- 128MB on-board cache for data transmission or image resend;
- Support Software Trigger/Hardware Trigger/Free Run Mode;
- Support ISP functions including Sharpness/Denoising/Gamma/LUT/BlackLevel Correction/TargetBrightness etc.;
- Color cameras support interpolation, white balance, chroma, saturation, etc. ;
- Support multiple image data formats output/ROI/Mirror, etc. ;
- Compatible with USB3.0 Vision protocol and GenICam standard;
- Comform to CE, FCC, RoHS;

Dimensions (mm)



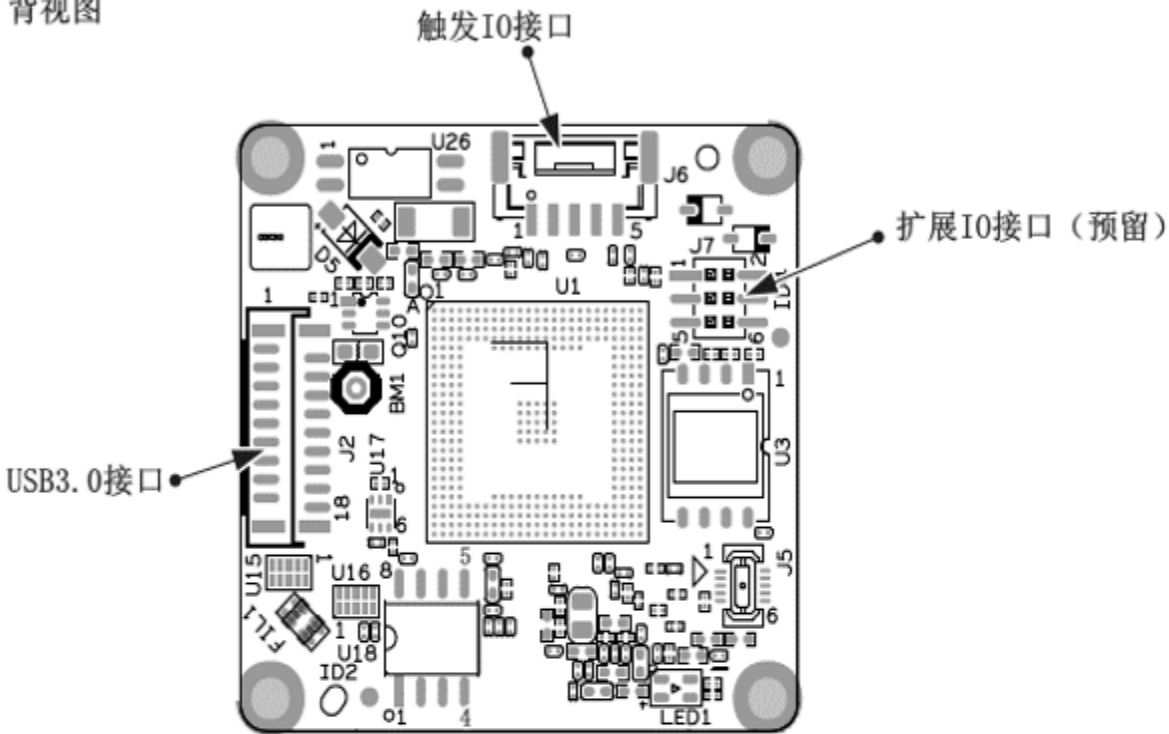
Specification

Model		AB7A20MU102E
Basic	Sensor	IMX304
	Image Sensor	1.1" CMOS
	Shutter	Global
	Resolution	4096 × 3000
	Frame Rate	23.4 fps
	Bit Depth	12
	Mono/Color	Mono
	Pixel Size	3.45 μm × 3.45 μm
Image	Pixel	12 MP
	S/N Ratio	>38dB
	Dynamic Range	>70dB
	Image Format	Mono8/10/10Packed
	Binning	Support
	ROI	Support
	X Flip	Support
	Y Flip	Support
	Gain	1~32
	Gamma	Range from 0 to 4, support LUT
	Exposure Time	16μS~1S
	Trigger Mode	Software Trigger/Hardware Trigger/Free Run Mode
	SPC	Support
Performance	User Setting	Support two sets of user-defined configurations
	Image Buffer	64MB
Port	Port	USB 3.0
	GPIO Interface	5-core white plug interface: 1 optocoupler isolated input, 1 optocoupler isolated output, and 1 configurable input/output without optocoupler isolation
	Lens Mount	C
Power	Power Supply	5.0V/900mA, powered through USB3.0 interface (compliant with USB3.0 interface specifications) or +5.0V/1A DC power supply auxiliary power supply (through auxiliary communication interface)
	Power Consumption	≈3.2W
Structure	Product Dimensions	35 mm × 35 mm × 31 mm (Not including lens)
	Net Weight	50g
Environment	Storage Temperature	-30℃~+80℃
	Operating Temperature	-30℃~+50℃



Connector Pin-out

背视图



触发I/O口

接插件：1.25mm间距立式针形1排5列连接器（1.25T）

编号	信号	功能	方向	备注
1	GPIO	双向可配置通用输入输出接口	输入\输出	
2	GND	信号地	-	
3	OPT_GND	光耦隔离地	-	
4	OPT_OUT	光耦隔离输出	输出	最大100mA灌电流（Sink）
5	OPT_IN	光耦隔离输入	输入	最高26V输入电压

USB3.0接口

接插件：0.5mm间距立式18芯翻盖式FPC连接器

编号	信号	功能	方向	备注
1	VBUS	USB总线电源	-	5V，最大900mA
2	VBUS	USB总线电源	-	
3	GND	电源地	-	
4	GND	电源地	-	
5	USB2.0_D-	USB2.0数据负	双向	
6	GND	信号地	-	
7	USB2.0_D+	USB2.0数据正	双向	
8	GND	信号地	-	
9	NC	（空）	-	
10	GND	信号地	-	
11	USB3.0_TX	USB3.0发送数据负	输出	
12	GND	信号地	-	
13	USB3.0_TX	USB3.0发送数据正	输出	
14	GND	信号地	-	
15	USB3.0_RX	USB3.0接收数据负	输入	
16	GND	信号地	-	
17	USB3.0_RX	USB3.0接收数据正	输入	
18	GND	信号地	-	

扩展I/O口（预留）

接插件：1.27mm间距立式双排3列排母

编号	信号	功能	方向	备注
1	+5V	5V电源输出	-	最大100mA
2	GND	电源地	-	
3	+3.3V	3.3V电源输出	-	最大100mA
4	GPIO2_IN	扩展通用输入输出接口（输入）	输入	3.3V逻辑电平
5	GND	信号地	-	
6	GPIO2_OUT	扩展通用输入输出接口（输出）	输出	3.3V逻辑电平

备注：

- （1）表中方向一栏都是针对USB3.0单板相机。
- （2）图中接口连接线缆禁止热插拔。