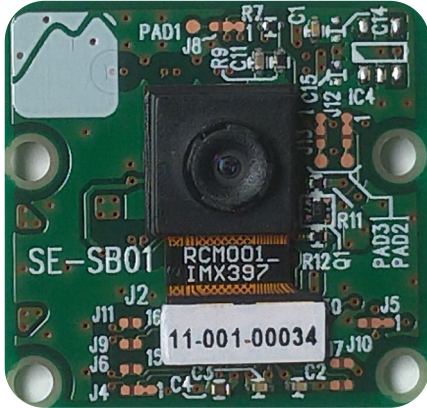




Soho Enterprise Ltd.

Global Shutter Camera Board w/ VGA CIS for Single Board Computers SE397GS-CB (Evaluation Sample)



■ **Adopted Sony Global Shutter Image Sensor**

Sony IMX397CLN-C high sensitivity GS CIS

■ **Wide View Angle: FoV(D) = 90° ± 5°**

Suitable for wide angle image recognition usage in AIoT area

■ **High Speed Operation**

Up to 240fps

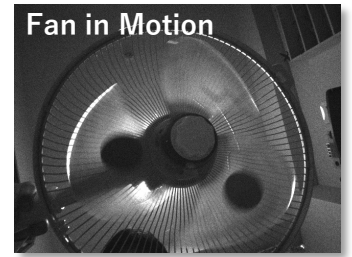
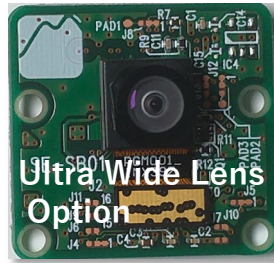
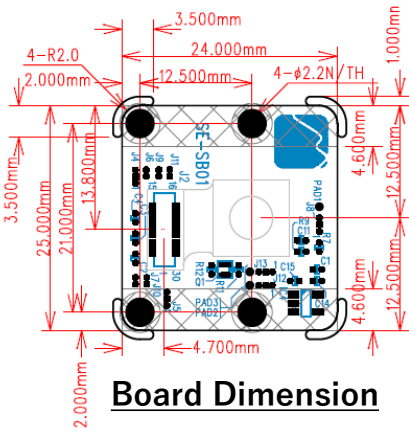
■ **Camera Driver for “tinker board” is available.**

Tinker board & RaspberryPi in RAW capture mode

▶ **Extensivity:**

Synchronization by XVS (GPIO)

■ **Ultra-Wide-Angle Option: FoV(D)=187° ± 3°**



■ **Assumed application cases**

- Machine vision for the object in fast motion
- Vision analysis in sports training
- Biometrics

○ Measurement device to adjust the mechanical timing

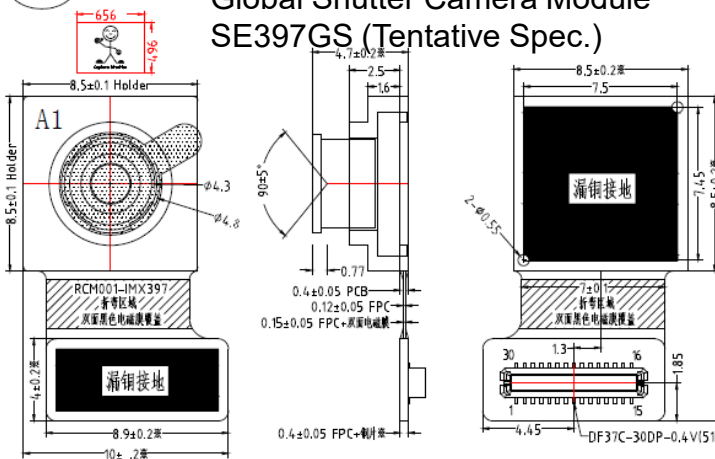
○ Stereo depth measurement in motion

○ Motion capture for gesture control in VR game

○ Motion capture for computer graphic animation

HSF

Global Shutter Camera Module
SE397GS (Tentative Spec.)



Same (x, y) form factor & compatible pin assignment w/ Raspberry Camera V2.1

NO	PIN NAME	NO	PIN NAME
1	INT	16	DGND
2	NC	17	NC
3	VIF 1.8V	18	NC
4	VDIG 1.2V	19	DGND
5	XCLR	20	NC
6	DGND	21	NC
7	INCK	22	DGND
8	DGND	23	DMON
9	AGND	24	DMOP
10	VANA 2.8V	25	DGND
11	XVS	26	DCKN
12	DGND	27	DCKP
13	SLASEL	28	DGND
14	FSTROBE	29	SCL
15	DGND	30	SDA

主	最大名称	-----	相对照度 (Relative Illumination) = 30%	感光芯片 (Chip Type)	IMX397CLN-C	
要	镜头类型 (Lens Size)	1/5 SP	景深 (Focusing Range)	5cm - ∞	镜头 (Lens Size)	656x496
参	视场角 (View Angle)	90±5°	调焦距离 (Focusing Distance)	120cm		
数	焦距 (EFL)	1.50mm	IR滤光器 (IR Filter)	-----		
	光圈 (FNO)	2.2±5%	FPC 供应源 材料	FPC (使用无铅压焊)		
	畸变 (TV Distortion)	< -15.0%	MIP 供应源	100 ± 10%		
	最大成像圈 (Max Image Circle)	φ3.88mm	底座名称 (Holder)	-----		

Key Specifications SE397GS-CB

Image sensor	Product Code: IMX397CLN-C	Manufacturer	Sony Back-side illuminated CMOS image sensor	
		Pixel size	3.45um x 3.45um	
		Active Image Area	640 x 480 VGA	
		Optical Size	Type 1/6.4 Diagonal 2.80mm	
		Operation Temperature	-30~75°C Function guarantee -10~60°C Performance guarantee	
		Storage Temperature	-40~80°C	
Module	Lens	Lens configuration	GS: Type 1/5 5P, GSW: Type 1/4 6P	
		FoV	GS: 90° ± 5° , GSW: 187° ± 3° (diagonal)	
		F No.	GS: 2.2 ± 5%, GSW: 2.1 ± 5%	
		Focus range	5cm ~ Infinity, Adjusted at 120cm when shipped.(GS), TBD for GSW	
	Connector	30pin	Compatible w/ Raspi Camera v2.1 module	
	Size	8.5mm*8.5mm *4.7mm	Lens Holder size. Same (x, y) form factor to Raspi module	
	Weight	0.4g		
	Power Supply	Analog	2.8V ± 0.2V	
Digital		1.2V ± 0.12V		
IO		1.8V ± 0.18V		
Board	Size	25mm* 24mm	Almost same size and compatible position for screw holes with RaspberryPi camera V2.1.	
		Connector	1.0mm pitch 15pin	For Tinker board, RaspberryPi
	Output	0.5mm pitch 22pin	RaspberryPi0, Raspi compute module, etc.	
		I/O Format	Support MIPI CSI-2 1lane	
	Power Supply	3.3V ± 0.3V	Maximum speed	Full size: 240fps
			Generate Analog 2.8V by on-board LDO	
			Generate Digital 1.2V by on-board DD-converter.	
			Generate Analog 1.8V by on-board LDO	
		Generate AF 2.8V by on-board optional LDO		

Why are the SE camera boards suitable for AIoT vision processing applications?

- 1. Good image quality**
The SE camera series uses a high-quality Sony image sensor of better SNR.
- 2. Ready to use on tinker board and other SBCs**
Camera drivers are ready. Easy to customize for PoC prototyping
- 3. Variety of Options**
Wide variety of options for resolution, global shutter, wide FoV lens, focus driver, etc.
- 4. Low Latency, RAW image**
Suitable for real-time autonomous control system
- 5. Affordable for everyone**
Pricing that individuals can purchase from a single item in line with the corporate philosophy of helping to create open innovation.

■ Further Information:

<https://soho-enterprise.com/>

<https://www.visionproc.org/index.php>

