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Datasheet

oToBrite Electronics, Inc

oToCAM206

Revision	Description	Release Date
1.0	First Release	Jan., 08, 2020

1. General Description

The oToCAM206 is the 180-degree camera designed for the application of around view monitoring, or rear camera of the vehicle. It uses high sensitive CMOS sensor to perform good image quality for the detection purpose.

2. Product specification

No.	Item	Specification
1	Image sensor	CMOS (Sony ISX 019)
2	Number of pixels (default)	1280(H) ×800 (V)
3	View angle (H/V)	HFOV: 189°; VFOV:131°
4	Resolution (Center/Corner)	Center TV line ≧500；Corner TV line≧400
5	Color filter array	RGGB
6	Output Interface	FPD-Link III with POC
7	Output Formats	Parallel 8-bit YCbCr data (uyvy)
8	Lens structure	2G4P+IR
9	Lens F No.	F2.0±5%
10	Power source (POC)	DC 6~12V
11	Startup time of power in	Within 500ms
12	Frame rate (default)	30 fps (default setting)
13	Exposure Control	DOL3
14	Serializer	TI DS90UB913A-Q1
15	Camera Current Consumption	Below 120mA @6V
16	Operating Temperature	-40℃ ~ +85℃
17	Storage temperature Range	-40℃ ~ +95℃
18	Waterproof	IP 67
19	Dimension(mm)	24*24*28.2 mm (exclude FAKRA connector)
20	Weight	17±5g

3. Outline Drawing

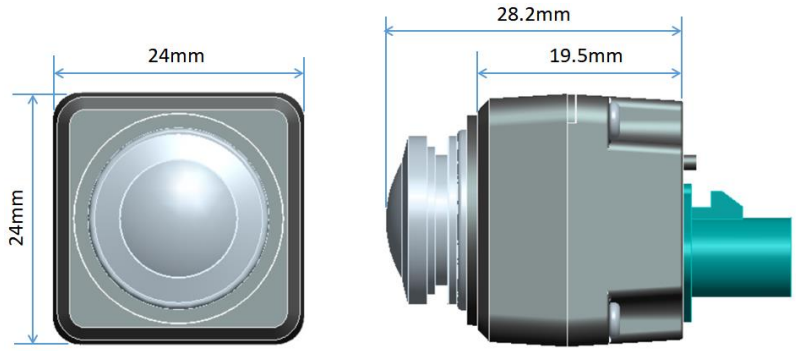

Figure 1. oToCAM206 Diagram (the bracket is optional and different for different car models)

4. Interface, Cables and Connectors (Male and Female)

4.1 Connectors of camera

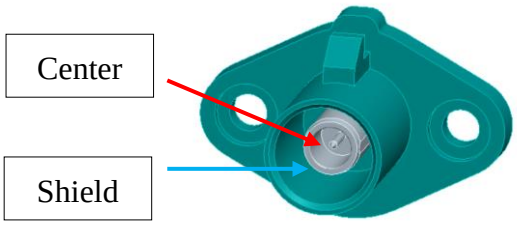

Figure 2.1 Amphenol 1251Y3-002-TT5GP-50

4.2 LVDS cable (POC) with FAKRA connector

Connector type: Amphenol 3FA1-NZSJ-C01W0

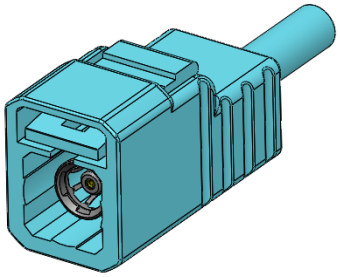

Figure 2.2 Amphenol 3FA1-NZSJ-C01W0

Pin definition:

Pin No.	Signal Name	Operation Voltage and Current
Center	DOUT	Min. 0.32V, Max. 0.412V
	PWR	Typ. 90mA @6V / 25℃
Shield	Shield GND	

5. Applications

5.1. Deserializer (TI 914A) Settings

1. DS90UB914A, Set Mode and OSS Select (OEN_OSS Override:1, OEN Select:1, OSS Select:1, MODE_OVERRIDE:1, MODE_10–bit mode:1)
2. DS90UB914A, Selects the FPD-III serial input channel

5.2. Serializer (TI 913A) Settings

1. HW Initial Default Mode: PCLK from Imager Mode.
2. I2C ID:0xb0(8b).
3. No additional register settings.

5.3. Sensor (ISX019) Register Settings

Sensor setting will be loaded from on-board SPI flash automatically after power up.

6. Special Note

ISX019 is System On Chip image sensor with ISP (Image Signal Processor).
Image are captured and transmitted with 8-bit YCbCr data from camera through coax cable.
Usually, Gamma curve is applied to get 8-bit image to improve dynamic range for application.

7. System Configuration (TBD)

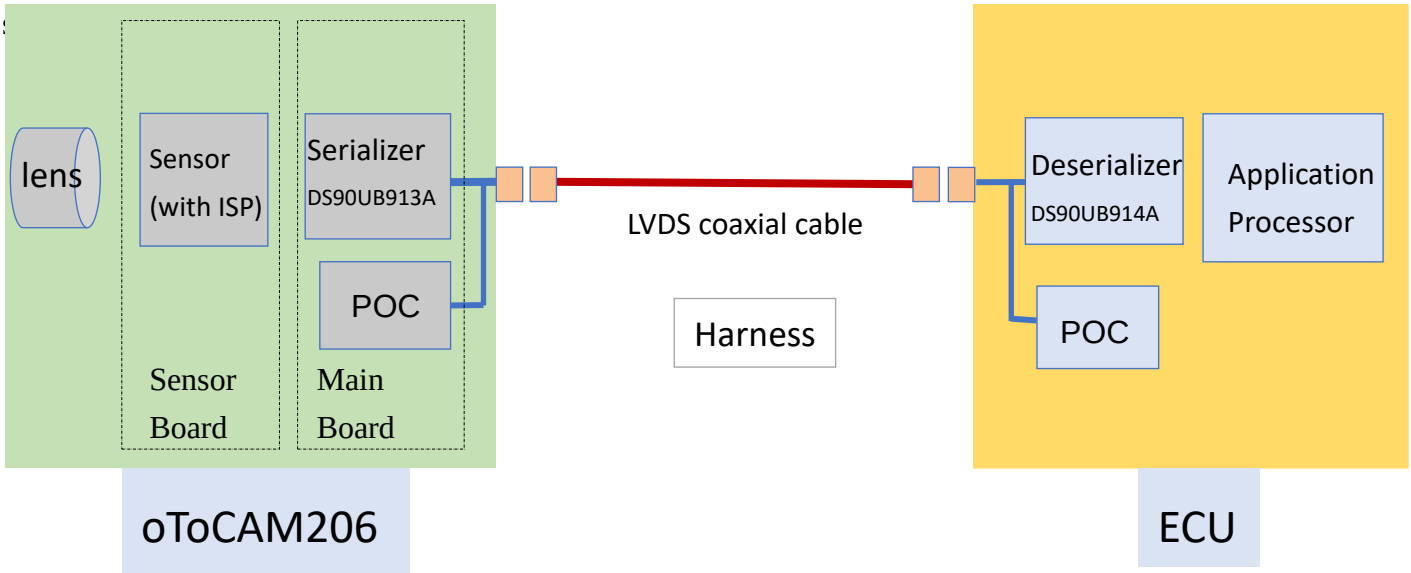

Figure 3. System Configuration

TI FPD-Link III Desirializer must be used as receiver in ECU for connecting oToCAM206.