oToBrite
driving easier and safer

Datasheet

oToBrite Electronics, Inc

oToCAM261

Revision	Description	Release Date
1.0	First Release	Nov, 5, 2019

1. General Description

The oToCAM261 is an automotive grade camera for the application of autonomous driving and CMS. It uses high sensitive CMOS sensor to perform good image quality for the detection purpose of the system product.

2. Product specification

No.	Item	Specification
1	Image sensor	CMOS (Sony IMX 490)
2	Number of pixels (default)	5.4M (2880 (H) × 1860 (V))(default setting)
3	View angle(H)	120
4	Resolution(Center/Corner)	IH0 SFR≧30%, IH8 SFR≧10%@imatest
5	Color filter array	RGGB
6	Output Interface	GMSL2 with POC
7	Output Formats	12-bit raw data (default setting)
8	S/N ratio	120dB
9	Lens structure	8G/7G/TBD
10	Lens F No.	F1.6
11	Power source (POC)/Typical	DC6~17V/6V
12	Startup time of power in	Within 200ms
13	Frame rate (default)	30 fps (default setting)
14	Exposure Control	
15	Serializer	MAX9295
16	Camera Current Consumption	Below 150mA @12V
17	Operating Temperature	-40℃ ~ +85℃
18	Storage temperature Range	-40℃ ~ +95℃
19	Waterproof	IP 67
20	Dimension(mm)	28*28*26 mm (exclude Fraka connector)
21	Weight	TBD

3. Outline Drawing

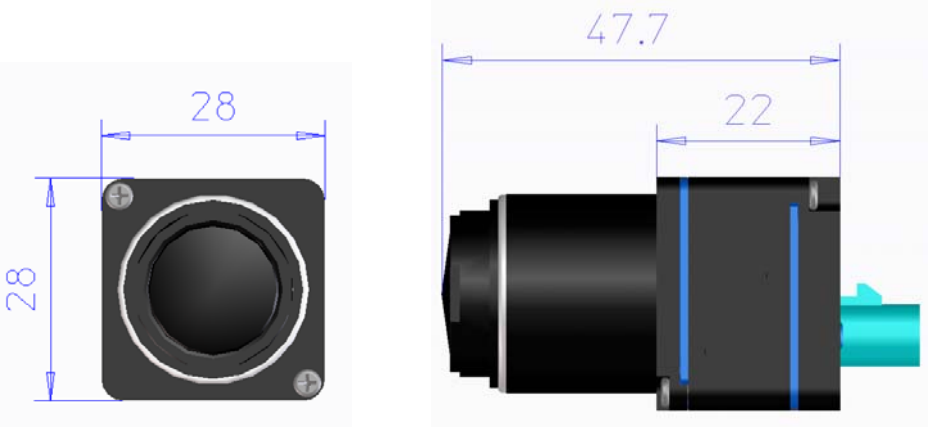


Figure 1. oToCAM261 Diagram (the bracket is optional and different for different car models)

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

4.1 Connectors of pigtail cable

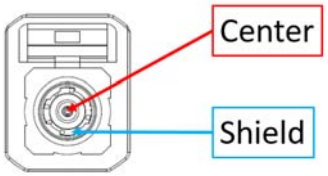


Figure 2. Amphenol 3FA1-NZSJ-C01E0

4.2 LVDS cable (POC) with Fakra connector

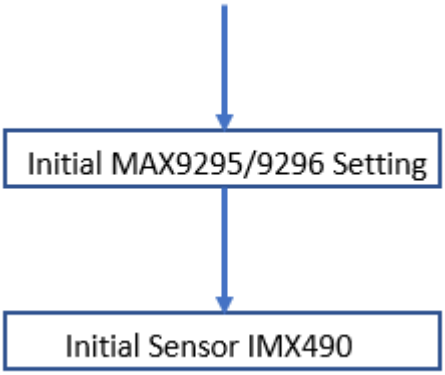
Cable length: 230mm (+20/-20_mm)
Connector type: Amphenol 3FA1-NZSJ-C01E0
Pin definition:

Pin No.	Signal Name	Operation Voltage and Current
Center	DOUT	Min. 0.3V, Max. 0.5V
	PWR	Typ. 220mA @6V / 25℃
Shield	Shield GND	

5. Applications

5.1. I2C ID Address

5.2. Initialization



5.3. Deserializer (maxim 9296) Settings

1. MAX9296, Set Mode and I2C Select (CFG0 =0%:I2C\0x90; CFG1=0%:COAX\GMSL2\6Gbps).

(The registers file will be provided under NDA and/or samples purchased)

5.4. Sensor (IMX490) Register Settings

(The sensor registers file will be provided under NDA and/or samples purchased)

6. Special Note

There is no ISP (Image Signal Processor) inside this camera. Raw image data 12bits are captured and transmitted 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)

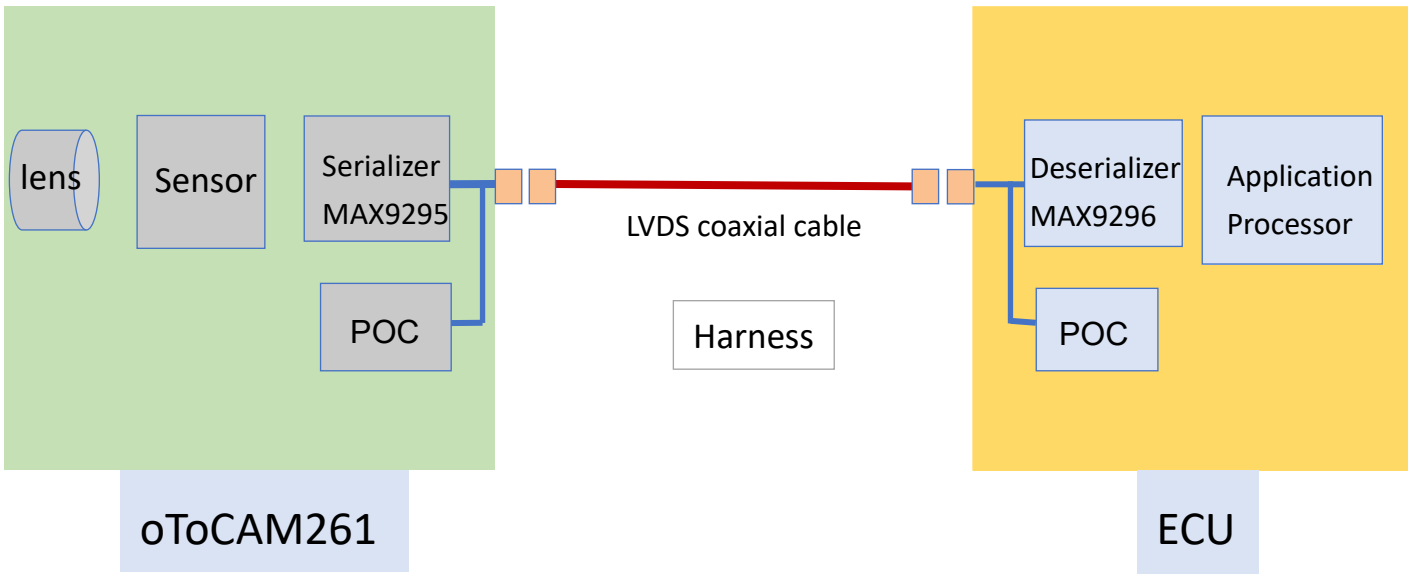


Figure 3. System Configuration

Maxim MAX9296 must be used as deserializer in ECU for connecting oToCAM261.