

Datasheet

oToBrite Electronics, Inc



oToCAM267-S190T

<u>Revision</u>	<u>Description</u>	<u>Release Date</u>
1.0	First Release	July, 29. 2020
1.1	Modify 4.3 extension cable	September, 30,2020

1. General Description

The oToCAM267-S190T is an automotive grade camera for the application of autonomous driving system. 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 ISX020)
2	Optical Format	1/3.75"
3	Pixel Size	3.0 μ m (H) \times 3.0 μ m (V)
4	Camera number of pixels	1280 (H) x 960 (V)
5	View angle (H)	191 $^{\circ}$
6	Resolution (Center/Corner)	IH0 SFR \geq 30%, IH8 SFR \geq 10% @imatest (80 lp/mm)
7	Color filter array	RGGB
8	Output Interface	FPD-Link III with POC
9	Output Formats	MIPI-CS12 8-bit YUV data
10	S/N ratio	TBD dB
11	Lens structure	2G4P+IR
12	Lens F No.	F2.0
13	Power source (POC)/Typical	DC 6~12V/6V
14	Startup time of power in	Within 200ms
15	Frame rate (default)	30fps
16	Serializer	TI DS90UB953
17	Camera Current Consumption	\leq 68mA@12V
18	Operating Temperature	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C
19	Storage temperature Range	-40 $^{\circ}$ C ~ +95 $^{\circ}$ C
20	Waterproof	IP 67/IP 69K
21	Dimension(mm)	28 x 35 x 35.7 (include bracket)
22	Weight	45.5g (include bracket)
23	Product Lead Time	Sample: 1 month after getting firm order SOP: 1 months after getting firm order (assumption: customer has released 6 months rolling forecast)

3. Outline Drawing

3.1 Outline Drawing (with bracket)

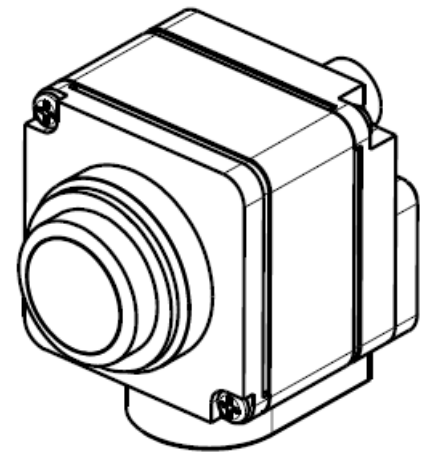
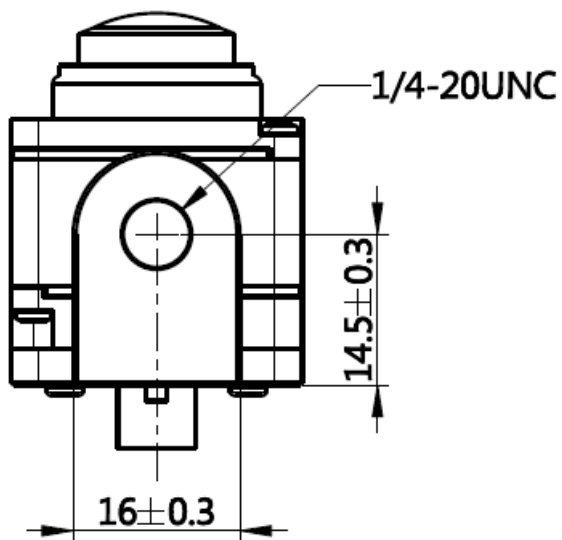
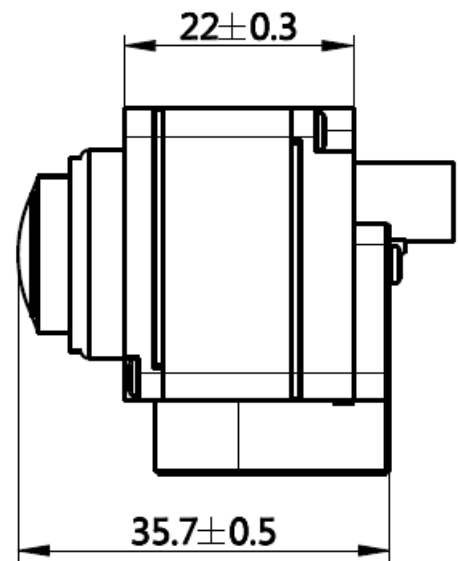
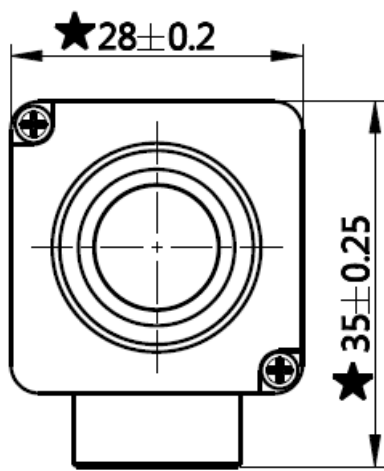


Figure 2. oToCAM267-S190T Diagram (with bracket)

4. Interface, Cables and Connectors

4.1 Connectors: Amphenol SMB1251Y3-002-TT5GP-50

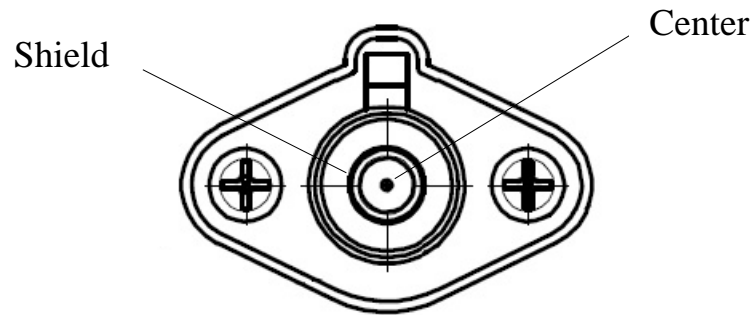


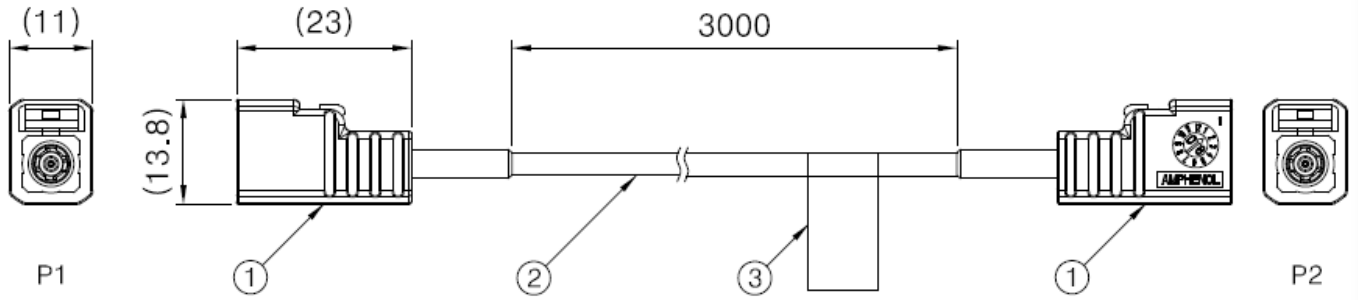
Figure 2. Amphenol SMB1251Y3-002-TT5GP-50

4.2. Pin definition:

Pin No.	Signal Name	Operation Voltage and Current
Center	DOUT	Min. 0.52V, Max. 0.67V
	PWR	Typ. 130mA @6V / 25°C
Shield	Shield GND	

4.3 Extension cable

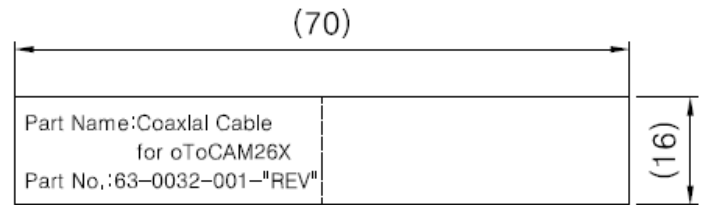
Cable length: 3000mm. The cable drawing is as below.



Item	Description	Description	Note
1	Connector	3FA1-NZSJ-C01E0	
2	Coaxial Cable	Amphenol RG-174	Coaxil Spec See Note 4
3	Lable	See" LABEL CONTENT"	

Notes:

1. Any open, miss wiring short and intermittent are not permitted.
2. ★ 標記為管制尺寸.
3. P1 and P2 are water-proof connector.
4. Coaxil Spec 如下表所示：



LABEL CONTENT

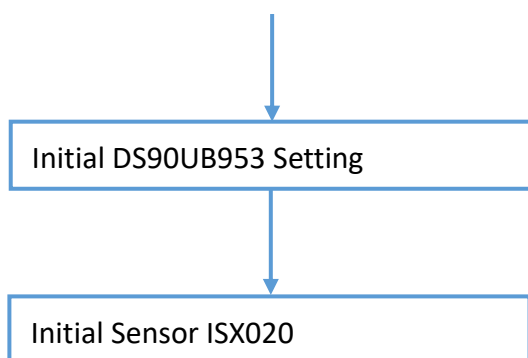
	Amphenol RG-174
Impedance(Ω)	50
Capacitance,nominal(pF/m)	105 pF
DC Resistance(ohm/m)	0.31
Attenuation,Maximun[20°C](dB/m)	0.81@900Mhz
	1.37@2.5Ghz
	2.31@6.0Ghz

5. Applications

5.1. I2C ID Address



5.2. Initialization



5.3. Deserializer (DS90UB954) Settings

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

5.4. Sensor (ISX020) Register Settings

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

6. Special Note

SX020 is System On Chip image sensor with ISP (Image Signal Processor) . Image are captured and transmitted with 8-bit YUV 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)

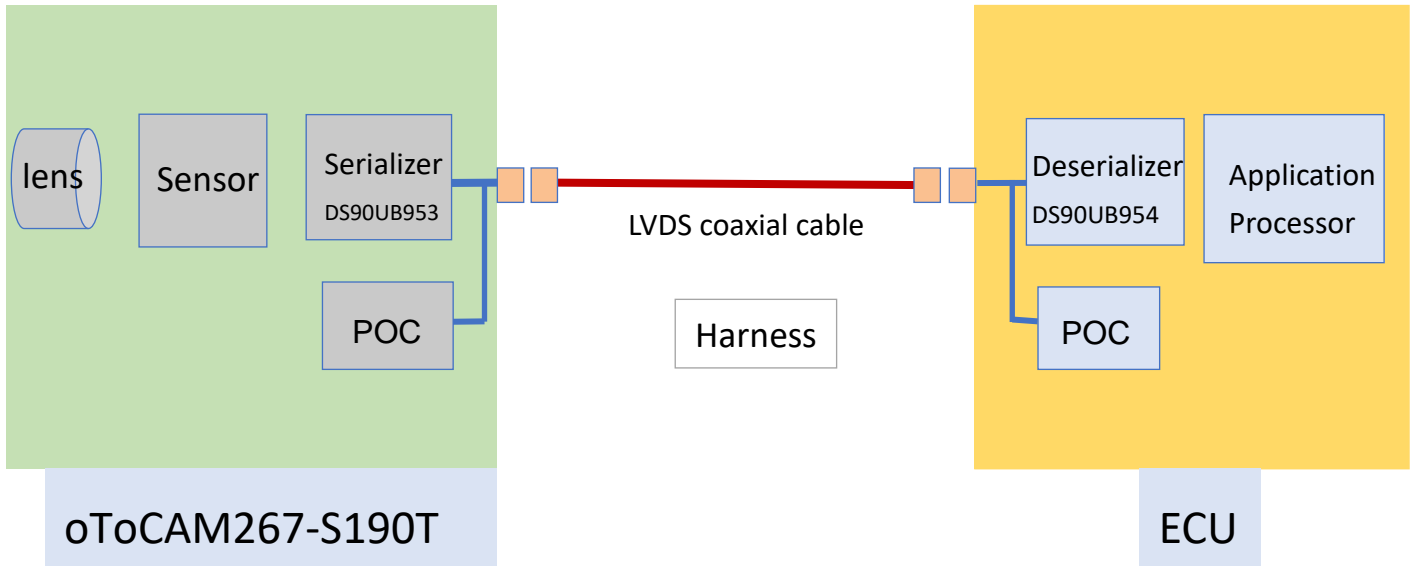


Figure 3. System Configuration

TI DS90UB954 must be used as deserializer in ECU for connecting oToCAM267-S190T.