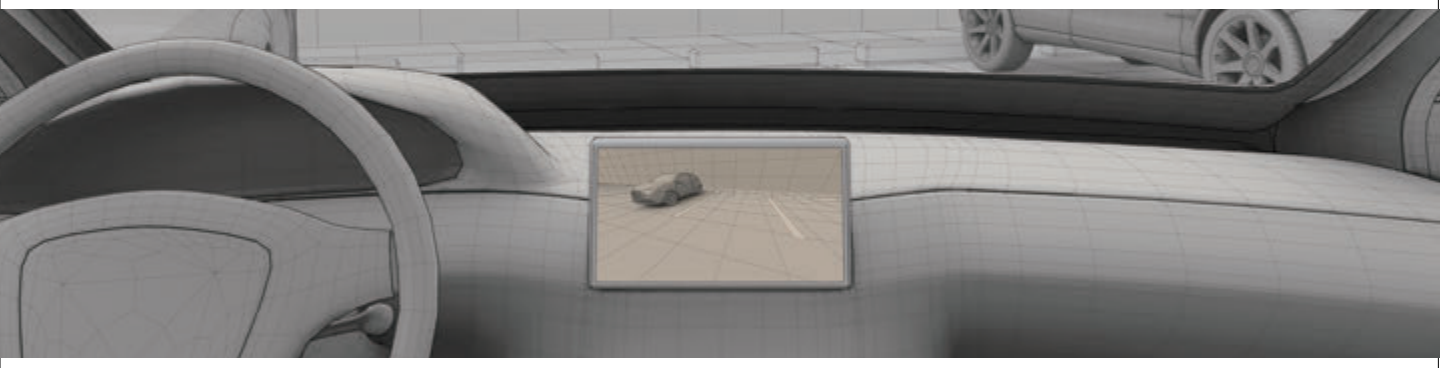
SONY

Automotive
CMOS Image Sensor



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ISX020

1/3.75-type 1.23megapixels CMOS image sensor System-on-Chip

The ISX020 is a System-on-chip with the back-illuminated stacked structure consists of a high performance image sensor and a processing engine for automotive surround, rear view camera and CMS use.

1. This sensor achieves simultaneous HDR shooting and LED flicker mitigation, and the logic chip realizes large-scale circuit by state- of-the-art process in smaller chip with low power consumption.

2. The control software (AE/AWB) is coded in on-chip ROM, which is suitable for small form-factor camera module application with this one chip device for automotive use.

3. Distortion correction and guideline function are coded in on-chip ROM for rear view camera.

Product Feature

- Number of recommended recording pixels:
  1280 (H) X 960 (V) approx. 1.23 M pixels
- Conversion Gain Switching (HCG mode / LCG mode)
- High dynamic range (HDR) function
- LED flicker mitigation(LFM) function
- AE/AWB control function
- Distortion correction / Guideline function
- External communication interface： I2C
- Output interface：
  - CMOS parallel / MIPI CSI-2 serial
- Output format： YCbCr format
- 12-bit / 10-bit A/D converter
- Serial-NOR-Flash control function
- AEC-Q100 Grade 2

Product Specifications

Model name		ISX020
Number of effective pixels		1280 (H) × 960 (V) 1.23 megapixels
Image size		Diagonal 4.85 mm (Type 1/3.75)
Unit cell size		3.0 µm (H) × 3.0 µm (V)
Frame rate	QVGA	60fps, 30fps
	V480	60fps
Sensitivity (Standard Value: F5.6, 1/30 sec. exposure time)		1953mV (Green pixel)
Power supply	Analog	2.9V
	Digital	1.1V
	Interface	1.8V
Power consumption		30fps, YUV, CMOS Parallel: 260mW 60fps, YUV, MIPI 4-lane : 355mW
Interface		CMOS Parallel output (8-bit Multiplex) MIPI CSI-2 Serial data output (4 lane / 2 lane)
Package		81pin BGA
Package size		7.3mm×6.65mm

Main Feature

Distortion and Guideline Overlay Function Comparison

Distortion Correction: On
Guideline Overlay: On

Distortion Correction: Off
Guideline Overlay: Off