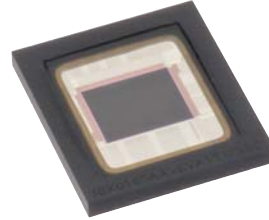




Sony's CMOS Image Sensor for Automotive

ISX016

1/4-type 1.26megapixels CMOS image sensor
System-on-Chip



1. System-on-Chip consists of a diagonal 4.54mm (Type 1/4) CMOS image sensor and a high performance image processing engine
 - Quad-VGA (approx. 1.26mega) effective square pixel array with 2.8 μ m unit pixel size with high sensitivity to near infrared light
 - Camera ISP functions such as AE and AWB
 - Built-in wide dynamic range function
 - Y/C digital video output from a parallel interface
2. Low power consumption operated with analog 2.7V and digital 1.8V/1.2V triple power supply voltages
3. Suitable for small form-factor automotive camera module application with this one chip device
 - Embedded control software coded in on-chip ROM

Product Features

- 12-bit A/D converter on chip
- PLL on chip
- High sensitivity, low dark current, no smear
- High frame rates (Quad-VGA 60 frame/s, 1280 x 720 60 frame/s)
- Vertical flip and horizontal mirror function (Start up setting)
- AE and AWB control functions
- Wide dynamic range function
- Input frequency: 27MHz
- Y/C digital output
- Analog output
- 11-bit D/A converter output
- Control interface (I2C,SPI,UART)
- External synchronous function supported
- EEPROM control function
- AEC-Q100 Grade 2

Product Specifications

Model name		ISX016
Number of effective pixels		1296 (H) x 976 (V) 1.26 megapixels
Image size		Diagonal 4.54mm (type 1/4)
Unit cell size		2.8μm (H) x 2.8μm (V)
Frame rate	HD720p	60fps, 50fps, 30fps, 25fps (Progressive)
	NTSC	59.94fps (Interlace)
	PAL	50fps (Interlace)
Scaling Out put mode		VGA,WVGA,XGA,HD720,WXGA,Quad-VGA
Sensitivity (F5.6 standard value, 1/30 second storage time)		510mV (green pixel)
Saturation signal (minimum value)		822mV
Power supply	Analog	2.7V
	Digital	1.2V
	Interface	1.8V
Interface		CMOS Parallel / Analog (NTSC/PAL)
Package		96pin BGA
Package size		8.5mm x 9.5mm

Image of Wide Dynamic Range



Wide dynamic range function : OFF



Wide dynamic range function : ON

Block Diagram

