

AR0130CS

1/3-inch CMOS Digital Image Sensor

Description

ON Semiconductor AR0130 is a 1/3-inch CMOS digital image sensor with an active-pixel array of 1280H x 960V. It captures images with a rolling-shutter readout. It includes sophisticated camera functions such as auto exposure control, windowing, and both video and single frame modes. It is programmable through a simple two-wire serial interface. The AR0130 produces extraordinarily clear, sharp digital pictures, and its ability to capture both continuous video and single frames makes it the perfect choice for a wide range of applications, including gaming systems, surveillance, and HD video.

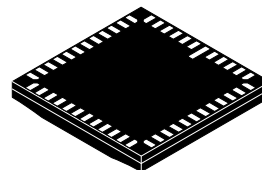
Table 1. KEY PERFORMANCE PARAMETERS

Parameter	Typical Value
Optical Format	1/3-inch (6 mm)
Active Pixels	1280 (H) × 960 (V) = 1.2 Mp
Pixel Size	3.75 μm
Color Filter Array	Monochrome, RGB Bayer
Shutter Type	Electronic Rolling Shutter
Input Clock Range	6 – 50 MHz
Output Clock Maximum	74.25 MHz
Output Parallel	12-bit
Max. Frame Rates 1.2 Mp (Full FOV) 720p HD (Reduced FOV) VGA (Full FOV) VGA (Reduced FOV) 800 x 800 (Reduced FOV)	45 fps 60 fps 45 fps 60 fps 60 fps
Responsivity at 550 nm Monochrome RGB Green	6.5 V/lux-sec 5.6 V/lux-sec
SNR _{MAX}	44 dB
Dynamic Range	82 dB
Supply Voltage I/O Digital Analog	1.8 or 2.8 V 1.8 V 2.8 V
Power Consumption	270 mW (1280 x 720 60 fps)
Operating Temperature	–30°C to + 70°C (Ambient) –30°C to + 80°C (Junction)
Package Options	PLCC
	10 × 10 mm 48-pin iLCC
	Bare Die



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**PLCC48 11.43 × 11.43
CASE 776AL**

**ILCC48 10 × 10
CASE 847AC**

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

Features

- Superior Low-light Performance Both in VGA Mode and HD Mode
- Excellent Near IR Performance
- HD Video (720p60)
- On-chip AE and Statistics Engine
- Auto Black Level Calibration
- Context Switching
- Progressive Scan
- Supports 2:1 Scaling
- Internal Master Clock Generated by On-chip Phase Locked Loop (PLL) Oscillator
- Parallel Output

Applications

- Gaming Systems
- Video Surveillance
- 720p60 Video Applications