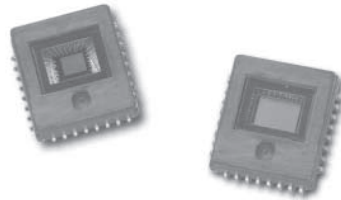


Agilent CMOS Monochrome Image Sensors ADCS-1120 (CIF) and ADCS-2120 (VGA)

Product Brief

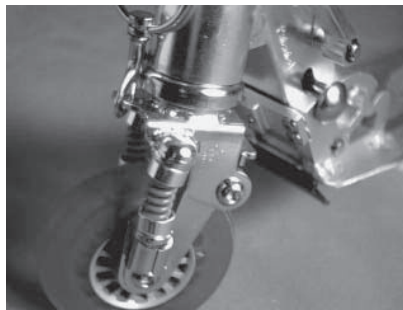


Description

The ADCS-1120 and ADCS-2120 CMOS Image Sensors capture high quality images while consuming very low power. These parts integrate a highly sensitive active pixel photodiode array with timing control and onboard A/D conversion. Available in either VGA (640x480) or CIF (352x288) resolution image arrays, the devices are ideally suited for low light environment.

The ADCS-2120 and ADCS-1120, when coupled with Agilent's HDCP family of image-processors, provide a complete imaging system to enable rapid end-product development. Designed for low-cost consumer electronic applications, the ADCS-2120 and ADCS-1120 sensors deliver unparalleled performance for mainstream imaging applications.

All images on this product sheet were produced by Agilent Technologies' sensors and processors.



Features

- **High quality, low cost CMOS Image Sensors**

VGA resolution (640H x 480V) – ADCS-2120

CIF resolution (352H x 288V) – ADCS-1120

- **High frame rates for digital video**

VGA: 15 frames/second

CIF: 30 frames/second

- **High sensitivity, low noise design–**

Ideal for capturing high-quality images in a wide variety of lighting conditions

- **Integrated Analog-to-Digital Converters**

VGA (ADCS-2120): 10 bit, programmable

CIF (ADCS-1120): 8 bit, fixed

- **Parallel and serial output**

- **Synchronous serial or UART interface**

- **Automated, dark response compensation**

- **Still image capability**

Typical Applications

- **Biometrics**
- **Surveillance**
- **Machine vision**
- **Bar code scanners**

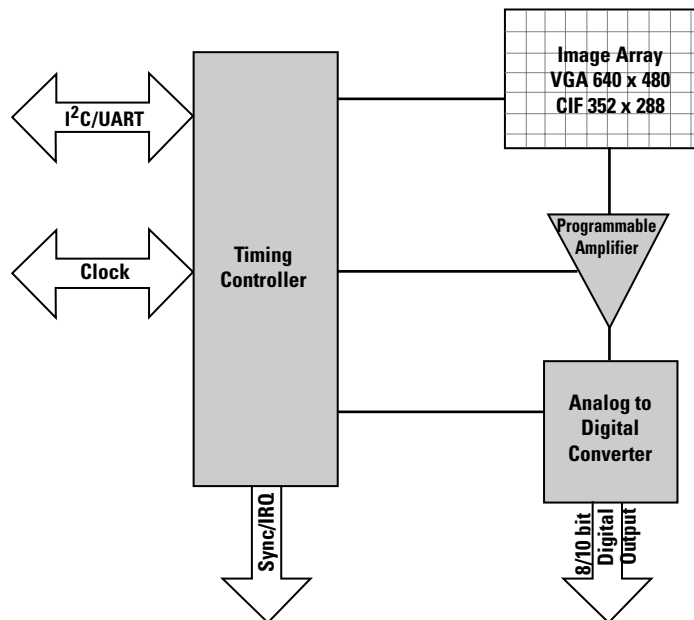


Typical Electrical Specifications

Part Number	ADCS-2120 (VGA)	ADCS-1120 (CIF)
Pixel size	7.4 x 7.4 μm	7.4 x 7.4 μm
Maximum Clock Rate	25 MHz (VGA)	32 MHz (CIF)
Effective Sensor Dynamic Range	65 dB (VGA)	61 dB (CIF)
Effective Noise Floor	43 e-	43 e-
Dark Signal ^[1]	270 e-/s	270 e-/s
Sensitivity ^[2,3]	1.6 V/(Lux-S)	1.6 V/(Lux-S)
Peak Quantum Efficiency ^[1,2,3]	38%	38%
Saturation Voltage	1.22V	1.22V
Full Well Capacity	70,115 e-	70,115 e-
Conversion Gain ^[2]	17 mV/e-	17 mV/e-
Programmable Gain Range	1 – 40 (8 bit resolution)	1 – 40 (8 bit resolution)
Fill Factor	42%	42%
Exposure Control	0.5 μsec minimum, 0.5 μsec increments	0.5 μsec minimum, 0.5 μsec increments
Supply Voltage	3.3V, -5%/+10%	3.3V, -5%/+10%
Absolute Max. Power Supply Voltage	3.6V	3.6V
Absolute Max. DC Input Voltage (any pin)	3.6V	3.6V
Power Consumption (typical)	150 mW operating, 150 μW standby	150 mW operating, 150 μW standby
Power Consumption (max)	200 mW operating, 3.3 mW standby	200 mW operating, 3.3 mW standby
Optical Format	1/3"	1/4"
Operating Temperature	-5 to +65°C	-5 to +65°C
Storage Temperature	-40 to +125°C	-40 to +125°C

Notes:

1. Specified over complete pixel area
2. Measured at unity gain
3. Measured at 555 nm



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Data subject to change.

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