

Product Document



CMOSIS / AWAIBA

is now

Member of the ams Group

The technical content of this CMOSIS / AWAIBA document is still valid.

Contact information:

Headquarters:

ams AG

Tobelbaderstrasse 30

8141 Premstaetten, Austria

Tel: +43 (0) 3136 500 0

e-Mail: ams_sales@ams.com

Please visit our website at www.ams.com



CHR70M

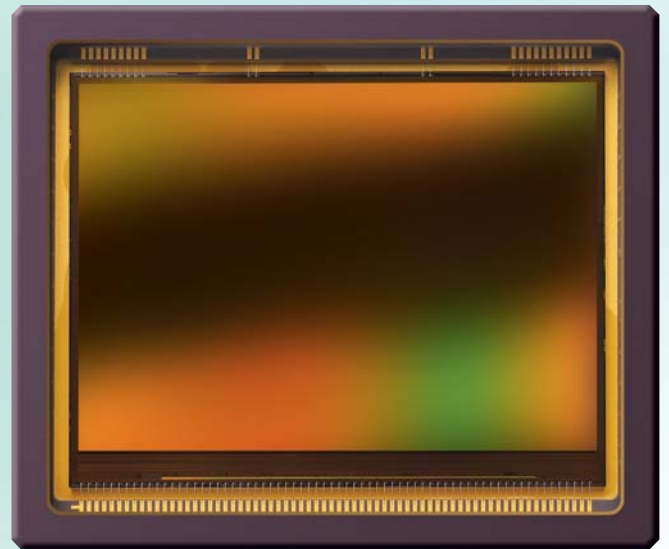
70MP ultra high resolution image sensor

SENSOR DESCRIPTION

The CHR70M is a high resolution CMOS image sensor with 10000 by 7096 pixels. The image array consists of $3.1\mu\text{m} \times 3.1\mu\text{m}$ pinned diode pixels, which share a number of transistors (2 pixels sharing). The image sensor has 8 analog outputs, each running at 30MHz resulting in a frame rate of 3fps at full resolution. Higher frame rates can be achieved in windowing mode or subsampling mode. The image sensor also integrates a programmable gain amplifier and offset regulation. These and other settings are all programmable using the SPI interface. A programmable on-board sequencer generates all internal exposure and read out timings. External triggering and exposure programming is also possible.

APPLICATION FIELDS

- Ultra high resolution imaging
- Document scanning
- Flat panel, PCB inspection
- Areal photography



SENSOR FEATURES

- Electronic rolling shutter
- 10000 (H) x 7096 (V) active pixels on a $3.1\mu\text{m}$ pitch
- 3 frames/sec at full resolution
- ROI capability - moving window functionality
- Master clock 30MHz
- 8 analog outputs @ 30MHz
- On-chip timing generation
- SPI-control
- 3.3V signaling
- Monochrome and Bayer (RGB) configuration
- Ceramic PGA package (65 pins)
- 2 sided AR-coated cover glass lid

Please address all product inquiries and ordering information to:

CMOSIS · Coveliersstraat 15 · B-2600 Antwerpen · Phone: +32 3 260 17 33 · Fax: +32 3 260 17 79 · info@cmosis.com

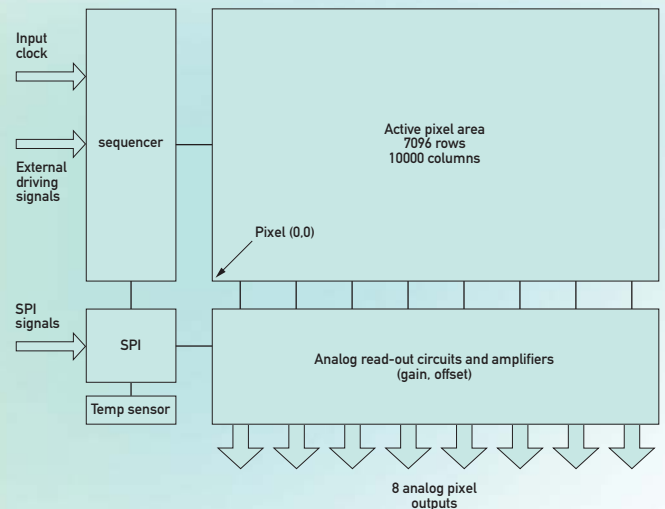


CHR70M

70MP ultra high resolution image sensor

SENSOR SPECIFICATIONS

Specification	Value
Part status	Pre-Production
Resolution	70MP - 10000 (H) x 7096 (V)
Pixel size	3.1 x 3.1 μm^2
Optical Format	35mm
Shutter Type	Electronic rolling shutter with true CDS correction
Frame Rate	3 fps
Output Interface	8 analog channels
Sensitivity	0.88 V/lux.s
Conversion gain	63 $\mu\text{V}/\text{e}^-$
Full well charge	13000 e^-
Dark noise	7 e^- (RMS)
Dynamic range	63 dB
SNR max	41.1 dB
Parasitic light sensitivity	-
Extended dynamic range	No
Dark current	3.2 e^-/s (25°C)
Fixed pattern noise	< 0.09% of full swing)
Chroma	Mono and RGB
Supply voltage	3.3V
Power	435 mW
Operating temperature range	0°C to +60°C (TBC)
RoHS compliance	Yes (TBC)
Package	65 pins PGA



ORDERING INFORMATION

(The CHR70M is derived from a custom CMOS image sensor. This sensor is not for sale for biometric applications. Please contact CMOSIS for further information)

CHR70M	Description
CHR71000-1E5M1PA	Monochrome version
CHR71000-1E5M1PN	Monochrome version with removeable glass lid
CHR71000-1E5C1PA	RGB Bayer Color version