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

CMOSIS
member of the ams group

CMV8000

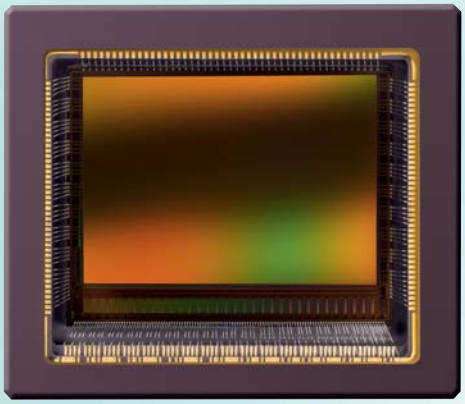
8MP high speed global shutter image sensor

SENSOR DESCRIPTION

The CMV8000 is a global shutter CMOS image sensor with 3360 by 2496 pixels in a 4/3" optical format. The image array consists of 5.5 um by 5.5 um pipelined global shutter pixels, which allow exposure during read out while performing CDS operation reducing fixed pattern and dark noise significantly. The CMV8000 has 16 digital LVDS outputs (serial) each running at 600 Mbps, which results in 104 fps frame rate at full resolution in 10-bit mode. Higher frame rates can be achieved in row-window-ing mode or row-subsampling mode. The image sensor also integrates a programmable gain amplifier and offset regulation. All operation modes are all pro-grammable using a SPI interface. A programmable on-board sequencer generates all internal exposure and read out timings. External triggering and exposure pro-gramming is also possible. Extended optical dynamic range can be achieved by multiple integrated high dynamic range modes. A 12-bit per pixel mode is avail-able at reduced frame rates.

APPLICATION FIELDS

- Machine vision
- Motion control
- Traffic monitoring
- High speed inspection
- Security



SENSOR FEATURES

- Pipelined global shutter with CDS
- 3360 (H) x 2496 (V) active pixels on a 5.5 µm pitch
- 2x 112 (left-right) optical black columns and 2x 16 (top-bottom) optical black rows
- Optical format of 4/3"
- 104 frames/s at full resolution in 10-bit mode (40 fps in 12-bit mode)
- ROI windowing capability (up to 8 separate ROIs - row based only)
- X-Y mirroring function
- 16 LVDS-outputs @ 600 Mbps multiplexable to 8, 4 and 2 at reduced frame rate
- Multiple High Dynamic Range (HDR) modes up to 90 dB
- On chip temperature sensor
- On chip timing generation
- SPI-control
- 3.3V and 1.8V signaling
- Monochrome and Bayer (RGB) configuration
- Ceramic 107-pins µPGA package (30.5 mm x 26.5 mm)
- 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
Please visit our website for contact information on local distribution partners.

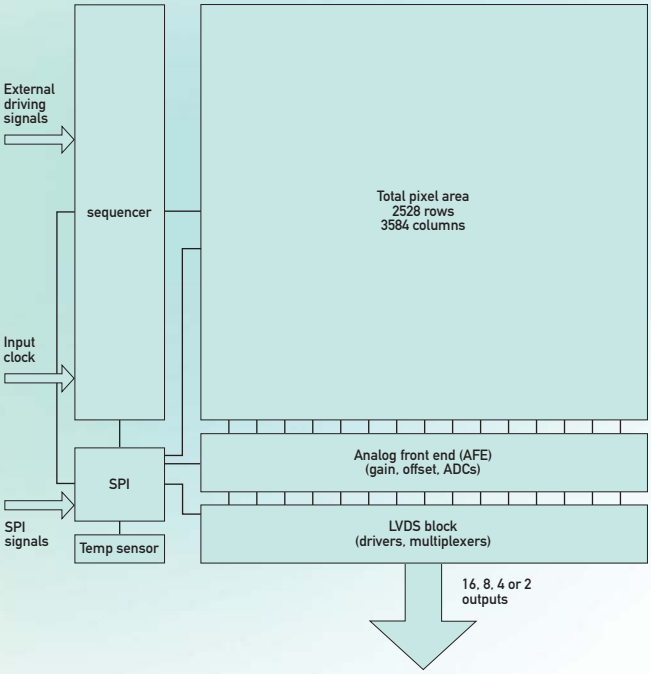
CMOSIS
member of the ams group

CMV8000

8MP high speed global shutter image sensor

SENSOR SPECIFICATIONS

Specification	Value
Part status	Pre-Production
Resolution	8MP - 3360 (H) x 2496 (V)
Pixel size	5.5 x 5.5 µm²
Optical Format	4/3''
Shutter Type	Pipelined global shutter with true CDS
Frame Rate	104 fps (10 bit) 40 fps (12 bit)
Output Interface	16 LVDS outputs @ 600 Mbps
Sensitivity	5.56 V/lux.s
Conversion gain	0.077 LSB/e-
Full well charge	11700 e-
Dark noise	8.6 e- (RMS)
Dynamic range	61 dB
SNR max	41.3 dB
Parasitic light sensitivity	1/20000
Extended dynamic range	Yes, up to 90 dB
Dark current	41.2 e-/s (25°C)
Fixed pattern noise	< 1 LSB (<0.1 % of full swing)
Chroma	Mono and RGB
Supply voltage	1.8 V / 3.3 V
Power	900 mW
Operating temperature range	-30°C to +70°C
RoHS compliance	Yes
Package	107 pins µPGA
Glass	double sided AR coated



ORDERING INFORMATION

CMV8000	Description
CMV8000ES-1E5M1PA	Monochrome version
CMV8000ES-1E5M1PN	Monochrome version with removeable glass lid
CMV8000ES-1E5C1PA	RGB Bayer Color version

11/2015