Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!
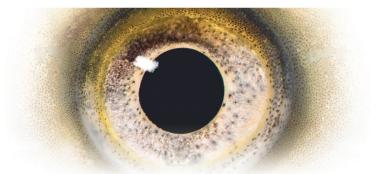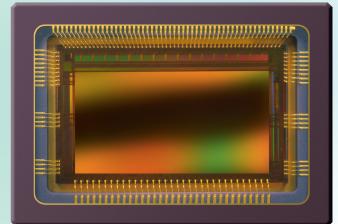
Contact us

CMV2000

2MP high speed global shutter image sensor

SENSOR DESCRIPTION

The CMV2000 is a global shutter CMOS image sensor with 2048 by 1088 pixels in a 2/3″ optical format supporting full HD imaging (1080p). 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 CMV2000 has 16 12-bit digital LVDS outputs (serial) each running at 480 Mbps. The image sensor also integrates a programmable gain amplifier and offset regulation. Each channel runs at 480 Mbps maximum, which results in 340 fps frame rate at full resolution in 10-bit mode. Higher frame rates can be achieved in row-windowing mode or row-subsampling mode. All operation modes are all programmable using a SPI interface. A programmable on-board sequencer generates all internal exposure and read out timings. External triggering and exposure programming is also possible. Extended optical dynamic range can be achieved by multiple integrated high dynamic range modes. A 12-bit per pixel mode is available at reduced frame rates.

APPLICATION FIELDS

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

SENSOR FEATURES

- Pipelined global shutter with CDS
- 2048 (H) * 1088 (V) active pixels on a 5.5 µm pitch
- Optical format of 2/3″
- 340 frames/s at full resolution in 10 bit mode
- 70 frames/s at full resolution in 12 bit mode
- ROI windowing capability
  (up to 8 separate ROIs - row based only)
- X-Y mirroring function
- 16 LVDS-outputs @ 480 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 95 pin µPGA package (18.6 mm x 13.5 mm)

CMV2000

2MP high speed global shutter image sensor
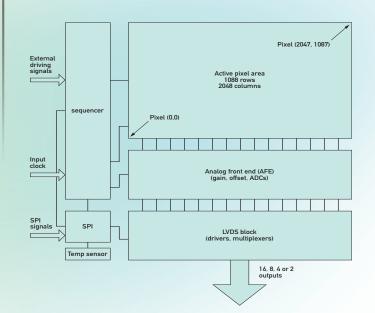
SENSOR SPECIFICATIONS

Specification	Value
Part Status	Production
Resolution	2MP – 2048 (H) x 1088 (V)
Pixel size	5.5 x 5.5 µm2
Optical Format	2/3''
Shutter Type	Pipelined global shutter with true CDS
Frame Rate	340 fps (10 bit)
	70 fps (12 bit)
Output Interface	16 LVDS outputs @ 480 Mbps
Sensitivity	4,64 V/lux.s
Conversion gain	0,075 LSB/e-
Full well charge	13500 e-
Dark noise	13 e- (RMS)
Dynamic range	60 dB
SNR max	41,3 dB
Parasitic light sensitivity	1/50000
Extended dynamic range	Yes, up to 90 dB
Dark current	125 e-/s (25 °C)
Fixed pattern noise	< 1 LSB (<0,1% of full swing)
Chroma	Mono and RGB
Supply voltage	1,8V / 3,3V
Power	600 mW
Operating temperature range	–30 to +70 degC
RoHS compliance	Yes
Package	95 pins µPGA

ORDERING INFORMATION

Product number	Description
CMV2000-2E5M1PP	Monochrome version with micro lenses
CMV2000-2E5C1PP	RGB Bayer color version with micro lenses
CMV2000-2E12M1PP	NIR enhanced sensitivity