CMV20000
AREA SCAN SENSORS

The CMV20000 is a high sensitivity pipelined global shutter CMOS image sensor with a resolution of 5120 x 3840 pixels. Pipelining means that exposure during read out is possible. The state-of-the- art pixel design makes true correlated double sampling (CDS) possible which reduces the fixed pattern noise and dark noise significantly. The imager integrates 16 LVDS channels each running at 480Mbps resulting in a 30fps frame rate at full resolution (12 bits per pixel). Driving and read-out programming can be set over a serial peripheral interface. An internal timing generator produces the signals needed for read- out and exposure of the image sensor while external exposure triggering remains possible.

The CMV20000 is derived from a custom CMOS image sensor. This sensor is not for sale for traffic applications. Please contact CMOSIS for further information.

SPECIFICATIONS

Part status	Production
Resolution	20MP - 5120(H) x 3840(V)
Pixel size	6.4 x 6.4
Optical format	35mm
Shutter type	Global shutter
Frame rate	30 fps (12 bit)
Output interface	16 LVDS channels @ 480 Mbps
Sensitivity	8,3 V/lux.s
Conversion gain	0,25 LSB/e-
Full well charge	15000 e-
Dark noise	8 e- (RMS)
Dynamic range	66 dB
SNR max	41,7 dB
Parasitic light sensitivity	1/50000
Extended dynamic range	Yes, up to 90 dB
Dark current	125 e-/s (25 degC)
Fixed pattern noise	< 8 LSB (<0,2% of full swing)
Chroma	Mono and RGB
Supply voltage	1,8V / 3,3V
Power	1100 mW
Operating temperature range	-30 to +70 degC (TBC)
RoHS compliance	Yes (TBC)
Package	143 pins PGA
Socket	Andon Electronics (http://www.andonelectronics.com) 575-18-38-143-01M-R27-L14 (thru-hole) 575-18-38-143-93M-R27-L14 (surface mount)

ORDERING INFO - CMV20000

Part Number	Version	Chroma	Microlens	Package	Glass
CMV20000-1E5M1PA	5 um epi	mono	Yes	ceramic 143pins PGA	double sided AR coated
CMV20000-1E5C1PA	5 um epi	color RGB Bayer	Yes	ceramic 143pins PGA	double sided AR coated
CMV20000-1E5M1PN	5 um epi	mono	Yes	ceramic 143pins PGA	removable