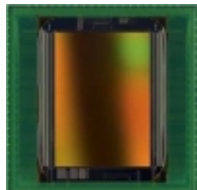# CMV300

AREA SCAN SENSORS

The CMV300 is a high speed CMOS image sensor with 640 by 480 pixels (1/3" optical format) developed for machine vision applications.The image array consists of 7.4µm x 7.4µm pipelined global shutter pixels allowing exposure during read out and CDS operation. The user can choose between four digital LVDS serial outputs of 12 bits each, or one 10-bit parallel CMOS output.

The image sensor integrates a programmable gain amplifier and offset regulation. Each LVDS channel runs at 480 Mbps maximum resultsing in 480 fps maximum at full resolution. Higher frame rates can be achieved in row-windowing or row-subsampling mode. All modes are programmable using the SPI interface.

All internal exposure triggers, read-out timings and high speed clocks are generated by a programmable on-board sequencer and PLL. External triggering and exposure programming is also possible. Extended optical dynamic range can be achieved by multiple integrated high dynamic range modes.

SPECIFICATIONS

Part status	Production
Resolution	0.3MP - 640(H) x 480(V)
Pixel size	7.4 x 7.4
Optical format	1/3''
Shutter type	Global shutter
Frame rate	480 fps (LVDS 12 bit) 120 fps (CMOS 10 bit)
Output interface	4 LVDS outputs @ 480 Mbps - 10-bit CMOS output @ 40 Mhz (120 fps)
Sensitivity	6 V/lux.s
Conversion gain	0,2 LSB/e- (12 bit)
Full well charge	20,000 e-
Dark noise	20 e- (RMS)
Dynamic range	60 dB
SNR max	43 dB
Parasitic light sensitivity	1/50000
Extended dynamic range	Yes, up to 90 dB
Dark current	125 e-/s (25 degC)
Fixed pattern noise	< 4 LSB (12-bit) (<0,1% of full swing)
Chroma	Mono and RGB
Supply voltage	1,8V / 3,3V
Power	700 mW
Operating temperature range	-30 to +70 degC
RoHS compliance	Yes
Package	58 pins BGA
Socket	Andon Electronics (http://www.andonelectronics.com) 17-08-08-058-437T-R27-L14 (thru-hole) 17-08-08-058-329T-R27-L14 (surface mount) 17-08-08-058-321-G10-L14 (adapter)

ORDERING INFO - CMV300

Part Number	Version	Chroma	Microlens	Package	Glass
CMV300-4E7M1WP	7 µm epi	Mono	Yes	CSP 58 pins BGA	plain
CMV300-4E7C1WP	7 µm epi	RGB Bayer	Yes	CSP 58 pins BGA	plain