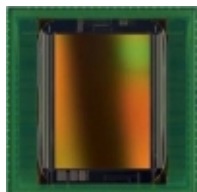


CMV300  
AREA SCAN SENSORS



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 resulting 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

<b>Part status</b>	Production
<b>Resolution</b>	0.3MP - 640(H) x 480(V)
<b>Pixel size</b>	7.4 x 7.4
<b>Optical format</b>	1/3"
<b>Shutter type</b>	Global shutter
<b>Frame rate</b>	480 fps (LVDS 12 bit) 120 fps (CMOS 10 bit)
<b>Output interface</b>	4 LVDS outputs @ 480 Mbps - 10-bit CMOS output @ 40 Mhz (120 fps)
<b>Sensitivity</b>	6 V/lux.s
<b>Conversion gain</b>	0,2 LSB/e- (12 bit)
<b>Full well charge</b>	20,000 e-
<b>Dark noise</b>	20 e- (RMS)
<b>Dynamic range</b>	60 dB
<b>SNR max</b>	43 dB
<b>Parasitic light sensitivity</b>	1/50000
<b>Extended dynamic range</b>	Yes, up to 90 dB
<b>Dark current</b>	125 e-/s (25 degC)
<b>Fixed pattern noise</b>	< 4 LSB (12-bit) (<0,1% of full swing)
<b>Chroma</b>	Mono and RGB
<b>Supply voltage</b>	1,8V / 3,3V
<b>Power</b>	700 mW
<b>Operating temperature range</b>	-30 to +70 degC
<b>RoHS compliance</b>	Yes
<b>Package</b>	58 pins BGA
<b>Socket</b>	Andon Electronics ( <a href="http://www.andonelectronics.com">http://www.andonelectronics.com</a> ) 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

<b>Part Number</b>	<b>Version</b>	<b>Chroma</b>	<b>Microlens</b>	<b>Package</b>	<b>Glass</b>
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