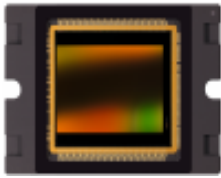


# CMV12000

## AREA SCAN SENSORS



The CMV12000 is a high sensitivity pipelined global shutter CMOS image sensor with a resolution of 4096 x 3072 pixels (super

HD format). 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 64 LVDS channels each running at 300 Mbps resulting in a 300 fps frame rate at full resolution with 10 bits per pixel data output. 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.

### SPECIFICATIONS

|                                    |                                                                                                                                                                                                                                              |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part status</b>                 | Production                                                                                                                                                                                                                                   |
| <b>Resolution</b>                  | 12MP - 4096(H) x 3072(V)                                                                                                                                                                                                                     |
| <b>Pixel size</b>                  | 5.5 x 5.5                                                                                                                                                                                                                                    |
| <b>Optical format</b>              | APS-like                                                                                                                                                                                                                                     |
| <b>Shutter type</b>                | Global shutter                                                                                                                                                                                                                               |
| <b>Frame rate</b>                  | 300 fps (10 bit)<br>132 fps (12 bit)                                                                                                                                                                                                         |
| <b>Output interface</b>            | 64 LVDS outputs @ 600 Mbps<br>multiplexable to 32, 16, 8, 4, 2 or 1 output(s)                                                                                                                                                                |
| <b>Sensitivity</b>                 | 4,64 V/lux.s                                                                                                                                                                                                                                 |
| <b>Conversion gain</b>             | 0.075 LSB/e-                                                                                                                                                                                                                                 |
| <b>Full well charge</b>            | 13500 e-                                                                                                                                                                                                                                     |
| <b>Dark noise</b>                  | 13 e- (RMS)                                                                                                                                                                                                                                  |
| <b>Dynamic range</b>               | 60 dB                                                                                                                                                                                                                                        |
| <b>SNR max</b>                     | 41,3 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>         | < 1 LSB (<0,1% of full swing)                                                                                                                                                                                                                |
| <b>Chroma</b>                      | Mono and RGB                                                                                                                                                                                                                                 |
| <b>Supply voltage</b>              | 1,8V / 3,3V                                                                                                                                                                                                                                  |
| <b>Power</b>                       | 4200 mW                                                                                                                                                                                                                                      |
| <b>Operating temperature range</b> | -30 to +70 degC (TBC)                                                                                                                                                                                                                        |
| <b>RoHS compliance</b>             | Yes (TBC)                                                                                                                                                                                                                                    |
| <b>Package</b>                     | 237 pins µPGA                                                                                                                                                                                                                                |
| <b>Socket</b>                      | Andon Electronics<br>( <a href="http://www.andonelectronics.com">http://www.andonelectronics.com</a> )<br>10-30-07-237-400T4-R27-L14<br>(thru-hole)<br>10-30-07-237-414T4-R27-L14<br>(surface mount)<br>10-30-07-237-405G10-L14<br>(adapter) |

## ORDERING INFO - CMV12000

| Part Number       | Version   | Chroma              | Microlens | Package                   | Glass                  |
|-------------------|-----------|---------------------|-----------|---------------------------|------------------------|
| CMV12000-2E5M1PA  | 5 um epi  | mono                | Yes       | ceramic 237pins $\mu$ PGA | double sided AR coated |
| CMV12000-2E5C1PA  | 5 um epi  | color               | Yes       | ceramic 237pins $\mu$ PGA | double sided AR coated |
| CMV12000-2E12M1PA | 12 um epi | mono - NIR enhanced | Yes       | ceramic 237pins $\mu$ PGA | double sided AR coated |
| CMV12000-2E5M1PN  | 5 um epi  | mono                | Yes       | ceramic 237pins $\mu$ PGA | removable              |