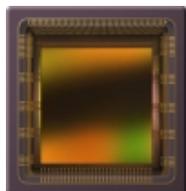




CMV4000
AREA SCAN SENSORS



The CMV4000 is a high sensitivity, pipelined global shutter CMOS image sensor with 2048 x 2048 pixel resolution capable of HD format. Pipelining allows

exposure during read out. The state-of-the-art pixel architecture offers true correlated double sampling (CDS) reducing the fixed pattern noise and dark noise significantly. The imager integrates 16 LVDS channels each running at 480 Mbps resulting in a 180 fps frame rate at full resolution at 10 bit per pixel. Driving and read-out are programmed over a serial peripheral interface. An internal timing generator produces the signals needed for read-out and exposure control of the image sensor. External exposure triggering remains possible. A 12 bit per pixel mode is available at reduced frame rate.

SPECIFICATIONS

| | |
|------------------------------------|--|
| Part status | Production |
| Resolution | 4MP - 2048(H) x 2048 (V) |
| Pixel size | 5.5 x 5.5 |
| Optical format | 1" |
| Shutter type | Global shutter |
| Frame rate | 180 fps (10 bit) 37 fps (12 bit) |
| Output interface | 16 LVDS outputs @ 480 Mbps |
| Sensitivity | 5,56 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 degC) |
| 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 | Ceramic 95 pins uPGA/LGA or 92-pins LCC |
| Socket | Andon Electronics (http://www.andonelectronics.com) 679-92A-SM-G10-L14-1 (LCC) 10-12-06-095-400T4-R27-S14 (PGA, thru-hole) 10-12-06-095-414T4-R27-S14 (PGA, surface mount) |

ORDERING INFO - CMV4000

| Part Number | Version | Chroma | Microlens | Package | Glass |
|------------------|-----------|---|-----------|--------------------------|-----------------------|
| CMV4000-3E5M1PP | version 3 | mono | Yes | ceramic 95pins μ PGA | plain |
| CMV4000-3E5C1PP | version 3 | RGB Bayer | Yes | ceramic 95pins μ PGA | plain |
| CMV4000-3E12M1PP | version 3 | mono - NIR enhanced (12 μ m epi) | Yes | ceramic 95pins μ PGA | plain |
| CMV4000-3E5M1LP | version 3 | mono | Yes | ceramic 95pins LGA | plain |
| CMV4000-3E5C1LP | version 3 | color | Yes | ceramic 95pins LGA | plain |
| CMV4000-3E12M1LP | version 3 | mono - NIR enhanced (12 μ m epi) | Yes | ceramic 95pins LGA | plain |
| CMV4000-3E5M1CA | version 3 | mono | Yes | ceramic 92pins LCC | double side AR-coated |
| CMV4000-3E5C1CA | version 3 | color | Yes | ceramic 92pins LCC | double side AR-coated |
| CMV4000-3E12M1CA | version 3 | mono - NIR enhanced (12 μ m epi) | Yes | ceramic 92pins LCC | double side AR-coated |
| CMV4000-3E5M1PN | version 3 | mono | Yes | ceramic 95pins μ PGA | removable |