

## CMOS Camera

# MV1-D1312-240-CL-8

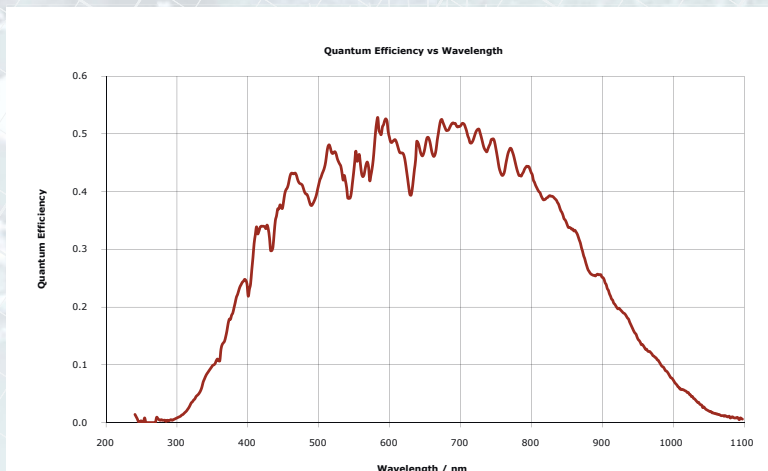
1.4 Megapixel resolution with proprietary Photonfocus sensor

### Features

- Photonfocus A1312 CMOS image sensor
- 1248 x 1082 pixel resolution
- Good NIR response
- Dynamic range up to 120 dB via LinLog®
- Up to 169 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink®
- 8 bit greyscale resolution



### Spectral response of the Photonfocus A1312 CMOS image sensor



## MV1-D1312-240-CL-8

Image sensor	
Image sensor	Photonfocus A1312 (3. Generation)
Technology	CMOS active pixel (APS)
Scanning system	Progressive scan
Optical format / diagonal	1" (13.6 mm diagonal) maximum resolution 2/3" (11.6 mm diagonal) 1024 x 1024 resolution
Resolution	1248 x 1082 pixels
Pixel size	8 $\mu\text{m}$ x 8 $\mu\text{m}$
Active optical area	10.48 mm x 8.64 mm (maximum)
Dark current	0.65 fA/pixel
Full well capacity	~100 ke <sup>-</sup>
Spectral range	< 370 to 1000 nm (to 10 % of peak responsivity)
Responsivity	210 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 625 nm / 8 bit / gain = 1 (approximately 620 DN / (lux s) @ 625 nm / 8 Bit / gain = 1)
Quantum Efficiency	> 50 %
Optical fill factor	> 60 %
Dynamic range	60 dB in linear mode; 120 dB with LinLog®
Colour format	Monochrome
Characteristic curve	Linear, LinLog®
Shutter mode	Global shutter
Read out mode	Sequential or simultaneous read out (read out during exposure only in linear mode) for higher frame rates

Camera	
Exposure time	10 $\mu\text{s}$ ... 0.279 s / 16.67 ns steps
Frame rate	169 fps
Pixel clock	80 MHz
Camera taps	3
Greyscale resolution	8 bit
Fixed pattern noise (FPN)	< TBD DN @ 8 bit / correction ON
Analogue gain	1
Digital gain	1 / 2 / 4 / 8
Configuration interface	CL SERIAL (9600 or 57600 Baud, user selectable)
Trigger modes	<ul style="list-style-type: none"> <li>• Free running (non triggered)</li> <li>• Interface trigger</li> <li>• External trigger input</li> <li>• Software trigger</li> </ul>
Features	<ul style="list-style-type: none"> <li>• Region of Interest (ROI)</li> <li>• 512 Multiple ROI (MROI)</li> <li>• Decimation Y</li> <li>• Image correction</li> <li>• 2 Look-up tables (LUT)</li> <li>• Constant frame rate</li> <li>• Crosshair</li> <li>• Convolver 3x3</li> <li>• Temperature</li> <li>• Image information</li> <li>• Extended trigger input and strobe output functionality</li> </ul>
Interface	CameraLink® Base
Operating temperature	0°C ... +50°C
Power supply	+12 V DC ( $\pm 10\%$ )
Power consumption	< 5.2 W
Lens mount	C-Mount (CS-Mount optional)
Dimensions	60 x 60 x 45 mm <sup>3</sup>
Mass	265 g
Conformity	CE / RoHS / WEEE
Specials	Adjustable backfocus; Opto-isolated I/Os

Software	
Camera control	PFRemote™ graphical user interface (GUI) and PFLib (SDK)
OS	win2k; winxp; winvista; other OS (Linux, QNX, etc) on request

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