

## CMOS Camera

# MV1-D2080 SERIES

## 4.3 Megapixel resolution with Photonfocus sensor

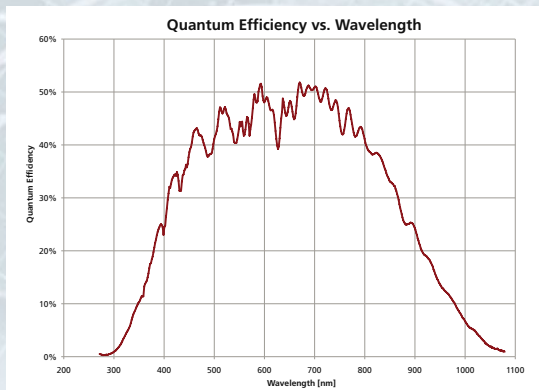
### Features

- Photonfocus A2080 CMOS image sensor
- 2080 x 2080 pixel resolution
- Good NIR spectral response
- Exceptional SNR up to 300:1
- Dynamic range up to 120 dB via LinLog®
- Up to 51 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink® and GigE interface
- up to 12 bit greyscale resolution
- Configuration via register based ASCII protocol possible
- Boardlevel or OEM solution available

Compatible with



## Spectral response of the Photonfocus A2080 CMOS image sensor



MV1-D2080-160-CL-12  
MV1-D2080-120-G2-12

MV1-D2080-240-CL-8

### Image Sensor

Image sensor	Photonfocus A2080 (3. Generation)	
Technology	CMOS active pixel (APS)	
Scanning system	Progressive scan	
Optical format / diagonal	23.5 mm diagonal @ max. resolution ( < 25 mm image circle)	
Resolution	2080 x 2080 pixels	
Pixel size	8 µm x 8 µm	
Active optical area	16.64 mm x 16.64 mm (maximum)	
Dark current	0.65 fA/pixel	
Full well capacity / SNR	~90 ke <sup>-</sup> (Max SNR > 300:1)	
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 read out or simultaneous read out (read out during exposure only in linear mode) for higher frame rates	

### Camera

Exposure time	10 µs ... 0.41 s / 25 ns steps	10 µs ... 0.279 s / 16.67 ns steps
Frame rate	17 fps (GigE) / 34 fps (CL)	51 fps
Pixel clock	80 MHz	
Camera taps	1 (GigE) / 2 (CL)	3
Greyscale resolution	8 bit / 10 bit / 12 bit	8 bit
Fixed pattern noise (FPN)	< 1 DN @ 8 bit / correction ON	
Analogue gain	1	
Digital gain	0.1 to 15.99 (Fine Gain)	
Configuration interface	CL SERIAL (Baudrate user selectable) (CL) / Gigabit Ethernet (GigE)	
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) • 512 Multiple ROI (MROI) • Decimation Y • Image correction • 2 Look-up tables (LUT)</li> <li>• Constant frame rate • Convolver • Crosshair • Temperature &amp; Image information</li> <li>• Extended trigger input and strobe output functionality • Status line</li> </ul>	
Interface	CameraLink® Base	
Operating temperature	0°C ... +50°C	
Power supply	+12 V DC (±10%) (CL) / +12 V ... +24 V DC (±10%) (GigE)	
Power consumption	< 3.3 W (CL) / < 5.2 W (GigE)	< 5.2 W (CL)
Lens mount	M42x1, F-Mount, C-Mount 1.3"	
Dimensions (H x W x L)	60 x 60 x 38 mm <sup>3</sup> (CL) / 60 x 60 x 47 mm <sup>3</sup> (GigE)	
Mass	222 g (CL) / 294 g (GigE)	
Conformity	CE / RoHS / WEEE	
Specials	Adjustable backfocus; Opto-isolated I/Os; Dual RS-422 Inputs (GigE)	

### Software

Camera control	PFRremote™ graphical user interface (GUI) and PFLib (SDK); GigE: graphical user interface GEV Player and SDK;	
OS	All 3rd party tools providing full support for GigE Vision and GenICam Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request	

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Version 2.0.0 | Nov 11