

CMOS Camera

MV1-D2080 SERIES

4 Megapixel resolution with proprietary Photonfocus sensor

Features

- Photonfocus A2080 CMOS image sensor
- 2080 x 2080 pixel resolution
- Good NIR response
- Dynamic range up to 120 dB via LinLog®
- Up to 51 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink® interface
- 12 bit greyscale resolution
- Exceptional SNR

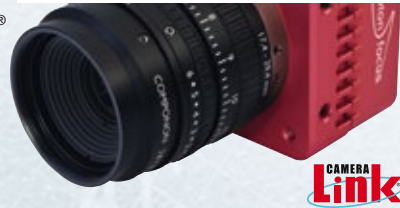
Compatible with



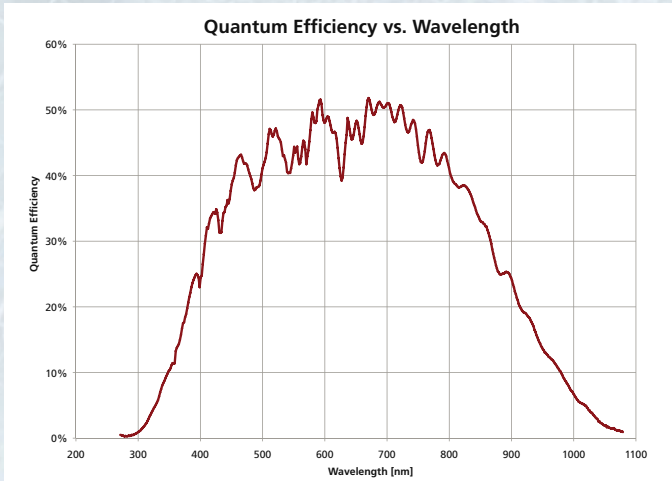
adept
electronic solutions

The Machine Vision and Imaging Specialists

Perth: +61 (08) 9242 5411
 Sydney: +61 (02) 9979 2599
 Melbourne: +61 (03) 9555 5621
 Email: adept@adept.net.au
 Web: <http://www.adept.net.au>



Spectral response of the Photonfocus A2080 CMOS image sensor



MV1-D2080-160-CL-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 μ m x 8 μ m
Active optical area	16.64 mm x 16.64 mm (maximum)
Dark current	0.65 fA/pixel
Full well capacity	~90 ke ⁻ (Max SNR > 300:1)
Spectral range	< 370 to 1000 nm (to 10 % of peak responsivity)
Responsivity	210 x 10 ³ DN / (J/m ²) @ 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 μ s ... 0.41 s / 25 ns steps	10 μ s ... 0.279 s / 16.67 ns steps
Frame rate	34 fps	51 fps
Pixel clock	80 MHz	
Camera taps	2	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	Digital fine gain (0.1 ... 15.9 / 0.001 steps)	
Configuration interface	CL SERIAL (up to 1.5 MBaud, user selectable)	
Trigger modes	<ul style="list-style-type: none"> • Free running (non triggered) • Interface trigger • External trigger input • Software trigger 	
Features	<ul style="list-style-type: none"> • Region of Interest (ROI) • 512 Multiple ROI (MROI) • Decimation Y • Image correction • 2 Look-up tables (LUT) • Constant frame rate • Convolver • Crosshair • Temperature & Image information • Extended trigger input and strobe output functionality • Status line 	
Interface	CameraLink® Base	
Operating temperature	0°C ... +50°C	
Power supply	+12 V DC (\pm 10%)	
Power consumption	< 5 W (over full operating range)	
Lens mount	M42x1, F-Mount, C-Mount 1.3"	
Dimensions (H x W x L)	60 x 60 x 38 mm ³	
Mass	222 g	
Conformity	CE / RoHS / WEEE	
Specials	Opto-isolated I/Os	

Software

Camera control	PFRremote™ graphical user interface (GUI) and PFLib (SDK)
OS	Windows and Linux (32 & 64 Bit); other OS (QNX, etc) on request

All information provided in this flyer is believed to be accurate and reliable. No responsibility is assumed by Photonfocus AG for its use. Photonfocus AG reserves the right to make changes to this information without notice. Reproduction of this flyer in whole or in part, by any means, is prohibited without prior permission having been obtained from Photonfocus AG.

Version 1.0.3