

CMOS Camera

MV-D1024E SERIES

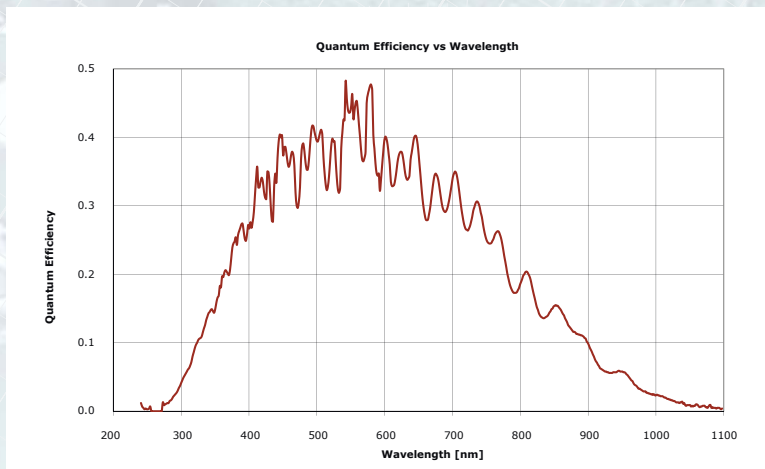
1 Megapixel resolution with proprietary Photonfocus sensor

Features

- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Dynamic range up to 120 dB via LinLog®
- Up to 150 fps @ full resolution
- Global shutter
- Monochrome
- Extended features
- CameraLink®, PoCL and USB 2.0 interface
- 12 bit greyscale resolution



Spectral response of the Photonfocus A1024B CMOS image sensor



MV-D1024E-40-CL-12
 MV-D1024E-40-PC-12
 MV-D1024E-40-U2-12

MV-D1024E-80-CL-12
 MV-D1024E-80-PC-12

MV-D1024E-160-CL-12
 MV-D1024E-160-PC-12

Image Sensor

Image sensor	Photonfocus A1024B (2. Generation)	
Technology	CMOS active pixel (APS)	
Scanning system	Progressive scan	
Optical format / diagonal	1" (15.42 mm diagonal)	
Resolution	1024 x 1024 pixels	
Pixel size	10.6 µm x 10.6 µm	
Active optical area	10.9 mm x 10.9 mm (maximum)	
Dark current	2 fA/pixel @ 30°C	
Full well capacity	~200 ke ⁻	
Spectral range	< 400 to 900 nm	
Responsivity	120 x 10 ³ DN / (J/m ²) @ 610 nm / 8 bit / gain = 1 (approximately 350 DN / (lux s) @ 610 nm / 8 bit / gain = 1)	
Quantum Efficiency	45 % @ 550 nm	
Optical fill factor	35% (geometrical)	
Dynamic range	60 dB in linear mode; 120 dB with LinLog®	
Colour format	Monochrome	
Characteristic curve	Linear, LinLog®, Skimming	
Shutter mode	Global shutter	
Read out mode	Sequential read out	Sequential or simultaneous read out (read out during exposure)

Camera

Exposure time	10 µs ... 0.41 s / 25 ns steps	10 µs ... 0.83 s / 50 ns steps	10 µs ... 0.41 s / 25 ns steps
Frame rate	37 fps	75 fps	150 fps
Pixel clock	40 MHz		80 MHz
Camera taps	1		2
Greyscale resolution	8 bit / 10 bit / 12 bit		
Fixed pattern noise (FPN)	< 1 DN RMS @ 8 bit / gain = 1 / offset correction ON		
Analogue gain	1		
Digital gain	1 / 2 / 4		
Configuration interface	CL SERIAL (9600 Baud)	CL SERIAL (9600 or 57600 Baud, user selectable)	
Trigger modes	<ul style="list-style-type: none"> • Free running (non triggered) • Interface trigger • External trigger input 		
Features	<ul style="list-style-type: none"> • Region of Interest (ROI) • 16 Multiple ROI (MROI) • Decimation X⁽¹⁾ and Y • Image correction • Look-up table (LUT) • Constant frame rate • Image information • Extended trigger input and strobe output functionality 		
Interface	CameraLink® Base PoCL - Power over CameraLink® Base USB 2.0	CameraLink® Base PoCL - Power over CameraLink® Base	
Operating temperature	0°C ... +60°C		
Power supply	+12 V DC (±10%)		
Power consumption	1.6 W (CL) / 3.0 W (USB 2.0)	3.0 W	3.2 W
Lens mount	C-Mount (CS-Mount optional)		
Dimensions	55 x 55 x 32 mm ³ (CL) 55 x 55 x 43 mm ³ (USB 2.0)	55 x 55 x 40 mm ³	
Mass	200 g	210 g	
Conformity	CE / RoHS / WEEE		
Specials	Adjustable backfocus; Opto-isolated I/Os		

Software

Camera control	PFRemote™ graphical user interface (GUI) and PFLib (SDK) USB 2.0: MicroDisplay (GUI) and PFLib (SDK)
OS	win2k; winxp; winvista; other OS (Linux, QNX, etc) on request USB 2.0: win2k; winxp

⁽¹⁾ Feature only available for MV-D1024E-40 cameras

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