

## CMOS Camera

# DS1-D1312 SERIES

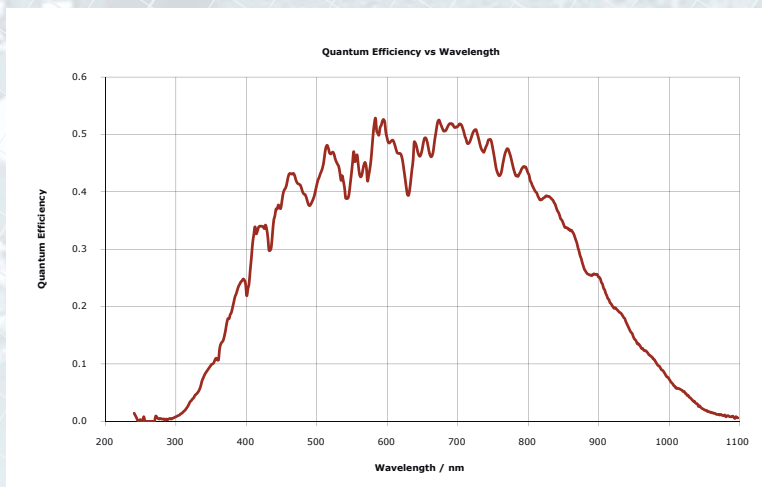
1.4 Megapixel resolution with proprietary Photonfocus sensor

### Features

- Photonfocus A1312 CMOS image sensor
- 1312 x 1082 pixel resolution
- Good NIR response
- Dynamic range up to 60 dB
- Up to 108 fps @ full resolution
- Global shutter
- Monochrome
- Standard features
- CameraLink® interface
- 10 bit greyscale resolution



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



DS1-D1312-40-CL-10

DS1-D1312-80-CL-10

DS1-D1312-160-CL-10

## 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	1312 x 1082 pixels		
Pixel size	8 µm x 8 µm		
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	Up to 60 dB		
Colour format	Monochrome		
Characteristic curve	Linear		
Shutter mode	Global shutter		
Read out mode	Sequential read out or simultaneous read out (read out during exposure)		

## Camera

Exposure time	10 µs ... 1.68 s / 100 ns steps	10 µs ... 0.83 s / 50 ns steps	10 µs ... 0.41 s / 25 ns steps
Frame rate	27 fps	55 fps	108 fps
Pixel clock	40 MHz		80 MHz
Camera taps	1		2
Greyscale resolution	8 bit / 10 bit		
Fixed pattern noise (FPN)	< 1 DN @ 8 bit / correction ON		
Analogue gain	1		
Digital gain	1		
Configuration interface	CL SERIAL (9600 Baud)		
Trigger modes	<ul style="list-style-type: none"> <li>• Free running (non triggered) • Interface trigger • External trigger input</li> <li>• Region of Interest (ROI) • Image correction</li> <li>• Standard trigger input and strobe output functionality</li> </ul>		
Features			
Interface	CameraLink® Base		
Operating temperature	0°C ... +50°C		
Power supply	+12 V DC (±10%)		
Power consumption	2.5 W	< 3.0 W	< 3.3 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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