

## MV-D640 SERIES

### High-Speed VGA

#### Features

- 640 x 480 pixel resolution
- Global shutter
- Colour or monochrome
- Dynamic range up to 60 dB
- Up to 200 fps @ full resolution (CameraLink® only)
- Region of Interest (ROI)
- CameraLink® and USB 2.0 interfaces
- 10 bit greyscale resolution (CameraLink® only)
- Superior Signal-to-Noise Ratio (SNR)
- CE, RoHS & WEEE compliant



#### Application Examples

##### Machine vision

- Standard vision applications
- Quality control
- Packaging inspection
- Colour control
- Surface inspection
- Sorting
- Colour line scan (640 x 2 pixel)

##### Motion analysis

- Slow-motion sequences
- Biomedical applications
- Sport applications

#### Accessories

- Power & signal connector 7 pin, 3 pin (included in the shipment)
- Digipeater CameraLink® repeater enables extended cable lengths (CameraLink® cameras only).
- See section Accessories in this booklet for further details. Lenses are not included.

MV-D640C-33-CL-10  
 MV-D640-33-CL-10

 MV-D640C-66-CL-10  
 MV-D640-66-CL-10

 MV-D640C-48-U2-8  
 MV-D640-48-U2-8

## Image Sensor

Image Sensor	MT9V403
Technology	CMOS active pixel
Scanning system	Progressive scan
Optical format / diagonal	1/2" / 7.92 mm
Resolution	640 x 480 pixels
Pixel size	9.9 µm x 9.9 µm
Active optical area	6.34 mm x 4.75 mm
Random noise	< 0.59 DN RMS @ 8 bit / gain = 1
Fixed pattern noise (FPN)	< 1.5 DN RMS @ 8 bit / gain = 1
Full well capacity	90 ke <sup>-</sup>
Spectral range	400 nm ... 1,000 nm
Responsivity	480 x 10 <sup>3</sup> DN / (J/m <sup>2</sup> ) @ 630 nm / 8 bit / gain = 1 / monochrome (approximately 2600 DN / (lux s) @ 630 nm / 8 bit / gain = 1 / monochrome)
Optical fill factor	50 %
Dynamic range	60 dB, (SNR 48 dB)
Colour format	Colour (RGB Bayer) or Monochrome
Characteristic curve	Linear
Shutter mode	Global shutter
Read out mode	Sequential read out or simultaneous read out (readout during exposure)

## Camera

Exposure time	50 µs ... 1.3 s / 10 µs steps		
Frame rate	100 fps	200 fps	129 fps / 42 fps @ 24 bit colour
Pixel clock	33 MHz	33 or 66 MHz	48 MHz
Camera taps	1		
Greyscale resolution	10 bit / 8 bit		8 bit
Analogue gain	1 ... 18		
Configuration interface	CL SERIAL (9600 baud)		
Trigger modes	Camera as master: • Free running (non triggered) • Edge controlled Camera as slave: • Edge controlled		• Opto isolated trigger input • Interface controlled
Features	• Region of Interest (ROI) • External clock available		• Region of Interest (ROI)
Interface	CameraLink® base configuration		USB 2.0
Operating temperature	0 °C ... +60 °C		
Power supply	+5 V DC (+10 % / -5 %)		+12 V DC (+/-10 %)
Power consumption	1.5 W	1.7 W	3.3 W
Lens mount	C-Mount		
Dimensions	55 x 55 x 37 mm <sup>3</sup>		55 x 55 x 48 mm <sup>3</sup>
Mass	200 g		
Conformity	CE / RoHS / WEEE		
Special	Microbench compatible mountings, adjustable backfocus		

## Software

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