VC-61MC-M/C 13 H

High Performance 61MP CMOS Digital Camera





The VC-61MC 13 H, the latest model of the industrial proven VC series, is a new 61 megapixel CMOS camera available with the Camera Link interface. This camera is based on the latest CMOS image sensor technology (IMX455) from Sony Semiconductor Solutions Corporation. The VC-61MC 13 H offers up to 13 frames per seconds at 9568×6380 resolution. Equipped with the Vieworks' innovative technologies proved by world's top FPD manufacturers, the VC-61MC camera offers not only highly uniformed images but also high speed image processing capabilities. Featuring high quality image uniformity and high speed, this camera is ideal for demanding applications such as FPD, PCB and semiconductor inspections.

vision.vieworks.com

Main Features

- 61 Megapixel Resolution
- Camera Link Full Interface
- Electronic Rolling Shutter
- DSNU and PRNU Correction
- Flat Field Correction with Sequencer Control
- Hot Pixel Correction
- GenlCam Compatible XML based Control

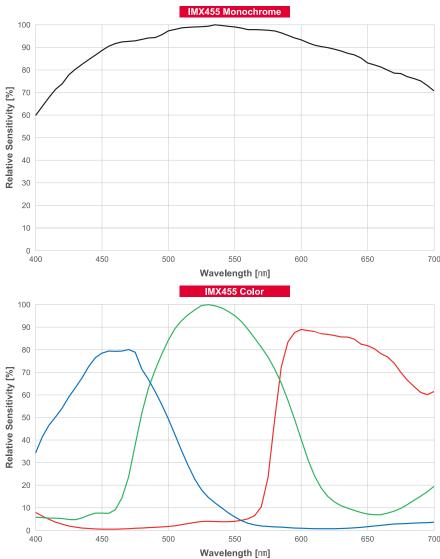
Applications

- Flat Panel Display Inspection
- Electronics Inspection
- Semiconductor Inspection
- Document / Film Scanning

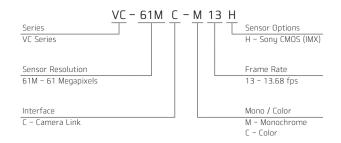
Specifications

Resolution (H × V) 9568 × 6380			
Sensor	Model		VC-61MC-M/C 13 H
Max. Image Circle Diagonal 43.3 mm (Type 2.7) Pixel Size 3.76 μm × 3.76 μm Inter=zee Camera Link Base/Medium/Full/10-tap, 26-pin SDR Connector Lang Size (max. Frame Rate 2 Tap 2.75 fps 4 Tap 5.50 fps 8 8 Tap 10.97 fps 10 Tap 13.68 fps Exposure Time (2-Line step) 22.72 μs – 60 s (@ 10 Tap) Partal Scan (Max. Speed) 1559.85 fps at 4 Lines Sensor ×1, ×2, ×3 (Horizontal and Vertical Dependent) Mono Mono Mono 8/10/12 Color RG Bayer 8/10/12 Mono Mono 8/10/12 Color RG Bayer 8/10/12 Bitter Superioricization Superioricization Superioricization Superioricization Coverlapped Hardware Trigger, Software Trigger, CC1 or User OutputO External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated	Resolution (H $ imes$ V)		9568 × 6380
Pixel Size	Sensor		SONY IMX455
Interface Camera Link Base/Medium/Full/10-tap, 26-pin SDR Connector 2 Tap 2.75 fps 4 Tap 5.50 fps 8 Tap 10.97 fps 10 Tap 13.68 fps Exposure Time (2-Line step) 22.72 us - 60 s (@ 10 Tap) Partial Scan (Max. Speed) 1569.85 fps at 4 Lines Sensor X1, X2, X3 (Horizontal and Vertical Dependent) Logic X1, X2, X3 (Horizontal and Vertical Independent) Mono Mono 8/10/12 Data Output Pixel Clock Speed 65/85 Mk Electronic Shutter Rolling Shutter Trigger Synchronization Non-overlapped Hardware Trigger, Software Trigger, CC1 or User Output0 External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated 78 dB Gain Control Analog: 1 X ~ 32 X Digital: 1 X ~ 32 X Black Level Control Operating: 0 C ~ 40 C, Storage: -40 C ~ 70 C Lens Mount Compliance Ce, FCC, KC	Max. Image Circle		Diagonal 43.3 mm (Type 2.7)
Max. Frame Rate 2 Tap 2.75 fps 4 Tap 5.50 fps 8 Tap 10.97 fps 10 Tap 13.68 fps Exposure Time (2-Line step) 22.72 μs − 60 s (@ 10 Tap) Partial Scan (Max. Speed) 1569.85 fps at 4 Lines Sensor ×1, ×2, ×3 (Horizontal and Vertical Dependent) Logic ×1, ×2, ×4 (Horizontal and Vertical Independent) Pixel Data Format Mono Color R6 Bayer 8/10/12 Data Output Pixel Clock Speed 65/85 Me Electronic Shutter Rolling Shutter Trigger Overlapped Free-Run Synchronization Non-overlapped Hardware Trigger, Software Trigger, CC1 or User OutputO External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated Opynamic Range Analog: 1 × ~ 32 × / Digital: 1 × ~ 32 × Black Level Control 0 ~ 255 LSB at 12 bit Dimension / Weight 80.0 mm × 80.0 mm × 107.0 mm, 744 g (with F-mount) Temperature Operating: 0°C ~ 40°C, Storage: ~40°C ~ 70°C Lens Mount F-mount, Custom Mount Available upon Request The power	Pixel Size		$3.76~\mu\mathrm{m}~ imes~3.76~\mu\mathrm{m}$
Max. Frame Rate A Tap B Tap 10 Tap 10 Tap 13.68 fps Exposure Time (2-Line step) Partial Scan (Max. Speed) Binning Binning Color Pixel Data Format Color Colo	Interface		Camera Link Base/Medium/Full/10-tap, 26-pin SDR Connector
Max. Frame Rate 8 Tap 10.97 fps Exposure Time (2-Line step) 22.72 µs - 60 s (@ 10 Tap) Partial Scan (Max. Speed) 1569.85 fps at 4 Lines Binning Sensor ×1, ×2, ×3 (Horizontal and Vertical Dependent) Logic ×1, ×2, ×4 (Horizontal and Vertical Independent) Mono Mono 8/10/12 Color RG Bayer 8/10/12 Data Output Pixel Clock Speed 65/85 мt Electronic Shutter Rolling Shutter Trigger Overlapped Free-Run Non-overlapped Hardware Trigger, Software Trigger, CC1 or User OutputO External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated Dynamic Range 78 dB Gain Control Analog: 1 × ~ 32 × / Digital: 1 × ~ 32 × Black Level Control 0 ~ 255 LSB at 12 bit Dimension / Weight 80.0 mm × 80.0 mm × 107.0 mm, 744 g (with F-mount) Temperature Operating: 0 °C ~ 40 °C, Storage: -40 °C ~ 70 °C Lens Mount F-mount, Custom Mount Available upon Request External 11 ~ 24 V DC Dissipation Typ. 16.0 W <td< td=""><td rowspan="4">Max. Frame Rate</td><td>2 Tap</td><td>2.75 fps</td></td<>	Max. Frame Rate	2 Tap	2.75 fps
8 Tap		4 Тар	5.50 fps
Exposure Time (2-Line step) Partial Scan (Max. Speed) Binning Sensor Logic Nono Color Bata Output Pixel Clock Speed Electronic Shutter Trigger Synchronization External Dimension / Weight Cair Control Contr		8 Тар	10.97 fps
Partial Scan (Max. Speed) Binning Sensor Logic Nono Mono Mono Mono And Output Pixel Clock Speed Electronic Shutter Trigger Synchronization External Tigger Oyerlapped Biack Level Control Dissipation Femourt Compliance Power Power Binning Sensor X1, ×2, ×3 (Horizontal and Vertical Dependent) X1, ×2, ×4 (Horizontal and Vertical Independent) X1, ×2, ×4 (Horizontal and Vertical Dependent) X1, ×2, ×4 (Horizontal and Vertical Dependents) X1, ×2, ×4 (Horizontal and Vertical Dependents) X1, ×2, ×4 (Horizontal and Vertical Independent) RG Bayer 8/10/12 RG Bayer 8/10/1		10 Tap	13.68 fps
Binning Sensor X1, X2, X3 (Horizontal and Vertical Dependent)	Exposure Time (2-Line step)		22.72 μs – 60 s (@ 10 Tap)
Binning Logic X1, X2, X4 (Horizontal and Vertical Independent) Mono Mono 8/10/12 Color RG Bayer 8/10/12 Data Output Pixel Clock Speed 65/85 Mtk Electronic Shutter Rolling Shutter Trigger Synchronization Non-overlapped Hardware Trigger, Software Trigger, CC1 or User Output0 External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated Dynamic Range 78 dB Gain Control Analog: 1 X ~ 32 X / Digital: 1 X ~ 32 X Black Level Control 0 ~ 255 LSB at 12 bit Dimension / Weight 80.0 mm X 80.0 mm X 107.0 mm, 744 g (with F-mount) Temperature 0perating: 0°C ~ 40°C, Storage: -40°C ~ 70°C Lens Mount F-mount, Custom Mount Available upon Request Power External 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Partial Scan (Max. Speed)		1569.85 fps at 4 Lines
Logic X1, X2, X4 (Horizontal and Vertical Independent)	Binning	Sensor	\times 1, \times 2, \times 3 (Horizontal and Vertical Dependent)
Pixel Data Format Color Color RG Bayer 8/10/12 Bata Output Pixel Clock Speed Electronic Shutter Trigger Synchronization Non-overlapped Free-Run Non-overlapped Hardware Trigger, Software Trigger, CC1 or User Output0 External Trigger Dynamic Range Gain Control Batak Level Control Dimension / Weight Temperature Power External Power Power Power Compliance Color RG Bayer 8/10/12 RG Bayer 8/10/12 Rolling Shutter Free-Run Non-overlapped Hardware Trigger, Software Trigger, CC1 or User Output0 Analog: 1× 24.0 V, 10 mA, Logical Level Input, Optically Isolated Page Base Subject Output Shutter Rolling Shutt		Logic	×1, ×2, ×4 (Horizontal and Vertical Independent)
Color RG Bayer 8/10/12 Data Output Pixel Clock Speed 65/85 Mt₂ Electronic Shutter Rolling Shutter Trigger Overlapped Free-Run Synchronization Non-overlapped Hardware Trigger, Software Trigger, CC1 or User OutputO External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated Dynamic Range 78 dB Gain Control Analog: 1 × ~ 32 × / Digital: 1 × ~ 32 × Black Level Control 0 ~ 255 LSB at 12 bit Dimension / Weight 80.0 mm × 80.0 mm × 107.0 mm, 744 g (with F-mount) Temperature Operating: 0 ℃ ~ 40 ℃, Storage: -40 ℃ ~ 70 ℃ Lens Mount F-mount, Custom Mount Available upon Request Power External 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Pixel Data Format	Mono	Mono 8/10/12
Electronic Shutter Trigger Synchronization Non-overlapped External Trigger Dynamic Range Gain Control Black Level Control Dimension / Weight Temperature Power External Power External Dissipation Compliance Dverlapped Free-Run Free-Run Hardware Trigger, Software Trigger, CC1 or User OutputO Analoger, Software Trigger, CC1 or User OutputO Hardware Trigger, Software Trigger, CC1 or User OutputO Analoger 1 × 24.0 V, 10 mA, Logical Level Input, Optically Isolated 78 dB Analoger 1 × 32 × 10 Digital: 1 × 32 × 10 Digital: 1 × 32 × 32 × 32 × 10 Digital: 1 × 32 × 32 × 32 × 32 × 32 × 32 × 32 ×		Color	RG Bayer 8/10/12
Trigger Synchronization Non-overlapped Hardware Trigger, Software Trigger, CC1 or User Output0 External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated Dynamic Range 78 dB Gain Control Analog: 1 × ~ 32 × / Digital: 1 × ~ 32 × Black Level Control 0 ~ 255 LSB at 12 bit Dimension / Weight 80.0 mm × 80.0 mm × 107.0 mm, 744 g (with F-mount) Temperature 0 perating: 0 ° C ~ 40 ° C, Storage: -40 ° C ~ 70 ° C Lens Mount F-mount, Custom Mount Available upon Request Power External 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Data Output Pixel Clock Speed		65/85 Mtz
Synchronization Non-overlapped Hardware Trigger, Software Trigger, CC1 or User Output0 External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated Dynamic Range 78 dB Gain Control Analog: 1 × ~ 32 × / Digital: 1 × ~ 32 × Black Level Control 0 ~ 255 LSB at 12 bit Dimension / Weight 80.0 mm × 80.0 mm × 107.0 mm, 744 g (with F-mount) Temperature Operating: 0 ° C ~ 40 ° C, Storage: -40 ° C ~ 70 ° C Lens Mount F-mount, Custom Mount Available upon Request Power External 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Electronic Shutter		Rolling Shutter
External Trigger 3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated Dynamic Range 78 dB Gain Control Analog: 1 × ~ 32 × / Digital: 1 × ~ 32 × Black Level Control 0 ~ 255 LSB at 12 bit Dimension / Weight 80.0 mm × 80.0 mm × 107.0 mm, 744 g (with F-mount) Temperature Operating: 0°C ~ 40°C, Storage: -40°C ~ 70°C Lens Mount F-mount, Custom Mount Available upon Request 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC		Overlapped	Free-Run
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		Non-overlapped	Hardware Trigger, Software Trigger, CC1 or User OutputO
Gain Control Analog: $1 \times \sim 32 \times /$ Digital: $1 \times \sim 32 \times$ Black Level Control $0 \sim 255$ LSB at 12 bit Dimension / Weight 80.0 mm \times 80.0 mm \times 107.0 mm, 744 g (with F-mount) Temperature Operating: $0^{\circ}\text{C} \sim 40^{\circ}\text{C}$, Storage: $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$ Lens Mount F-mount, Custom Mount Available upon Request 11 $\sim 24 \text{ V DC}$ Dissipation Typ. 16.0 W Compliance CE, FCC, KC	External Trigger		3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated
Black Level Control $0 \sim 255$ LSB at 12 bit Dimension / Weight $80.0 \text{ mm} \times 80.0 \text{ mm} \times 107.0 \text{ mm}, 744 \text{ g (with F-mount)}$ Temperature $0 \sim 40 \sim 40 \sim 500$ Storage: $-40 \sim 70 \sim 70 \sim 1000$ Lens Mount $0 \sim 255$ LSB at 12 bit Operating: $0 \sim 40 \sim 500$ Storage: $-40 \sim 70 \sim 70 \sim 1000$ External $0 \sim 255$ LSB at 12 bit $0 \sim 255$ LSB at 12 bit $0 \sim 255$ LSB at 12 bit $10 \sim 24 \sim 1000$ Storage: $-40 \sim 70 \sim 70 \sim 1000$ $10 \sim 255$ LSB at 12 bit $10 \sim$	Dynamic Range		78 dB
Dimension / Weight 80.0 mm \times 80.0 mm \times 107.0 mm, 744 g (with F-mount) Temperature Operating: $0^{\circ}\text{C} \sim 40^{\circ}\text{C}$, Storage: $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$ Lens Mount F-mount, Custom Mount Available upon Request 11 \sim 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Gain Control		Analog: $1 \times \sim 32 \times$ / Digital: $1 \times \sim 32 \times$
Temperature Operating: 0°C ~ 40°C, Storage: -40°C ~ 70°C Lens Mount F-mount, Custom Mount Available upon Request Power External 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Black Level Control		0 ~ 255 LSB at 12 bit
Lens Mount F-mount, Custom Mount Available upon Request 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Dimension / Weight		80.0 mm $ imes$ 80.0 mm $ imes$ 107.0 mm, 744 g (with F-mount)
Power External 11 ~ 24 V DC Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Temperature		Operating: 0°C ~ 40°C, Storage: −40°C ~ 70°C
Power Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Lens Mount		F-mount, Custom Mount Available upon Request
Dissipation Typ. 16.0 W Compliance CE, FCC, KC	Power	External	11 ~ 24 V DC
·		Dissipation	Typ. 16.0 W
API SDK Vieworks Imaging Solution 7.X	Compliance		CE, FCC, KC
	API SDK		Vieworks Imaging Solution 7.X

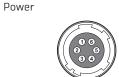
Relative Sensitivity Curves



Ordering Scheme



Connector Specification



1, 2, 3: +12V DC 4, 5, 6: GND (HR10A-7R-6PB)

Control



- 1: Trigger IN+
- 2: Trigger IN-
- 3: Strobe OUT-(GND)
- 4: Strobe OUT+ (HR10A-7R-4S)

Connectors on Camera Body

Mechanical Dimensions

Unit: mm

