

# New Camera Link Camera



Pregius

1.6  
MP

148  
fps

## BC160M series

0.4  
MP

523  
fps

## BC040M series

New IP Core

High Image Quality

*Teli*



29 × 29 × 26.5 mm

33 g

### Feature

- High speed response with new IP Core 'TELI Core Technology' (no CPU) system
- With Sony's high image quality CMOS sensor
- 1.6M (IMX273) : 148fps (8bit/3tap) 1,440(H)×1,080(V) pixels
- 0.4M (IMX287) : 523fps\*1 / 436fps (8bit/3tap) 720(H)×540(V) pixels
- Pixel size : BC160M=3.45(H)×3.45(V) μm / BC040M=6.90(H)×6.90(V) μm
- Global shutter type
- PoCL (Power over Camera Link) / Base Configuration
- Comm. protocol : Legacy (Legacy register), GenCP (IIDC2 register)

\*1: When 'High framerate mode' is ON

## Toshiba Teli Corporation

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# Specifications

B/W or COLOR	B/W		COLOR		B/W		COLOR	
Pixels	0.4M				1.6M			
ITEM	MODEL		BC040M	BC040MC	BC160M	BC160MC		
Interface	Camera Link Version 1.2 (PoCL) / Base configuration							
Imager	1/2.9 type GS-CMOS (IMX287)				1/2.9 type GS-CMOS (IMX273)			
Resolution	720 (H) x 540 (V)				1,440 (H) x 1,080 (V)			
Max. Frame Rate (all pixels readout)	523 fps (HighFramerateMode=ON) 436 fps (Mono8 / 3tap / 83MHz) 377 fps (Mono8 / 2tap / 83MHz)		436 fps (Bayer8 / 3tap / 83MHz) 377 fps (Bayer8 / 2tap / 83MHz)		148 fps (Mono8 / 3tap / 83MHz) 99 fps (Mono8 / 2tap / 83MHz)		148 fps (Bayer8 / 3tap / 83MHz) 99 fps (Bayer8 / 2tap / 83MHz)	
Aspect Ratio	4 : 3							
Pixel Size	6.90 (H) x 6.90 (V) μm				3.45 (H) x 3.45 (V) μm			
Scan Method	Progressive							
On-chip Color Filter	-				RGB primary color mosaic		RGB primary color mosaic	
Electronic Shutter	MANUAL (Global Shutter) / Random Trigger Shutter (Global Shutter)							
Standard Sensitivity (Gain : 0dB)	2,700 lx, F11, 1/125 s		2,100 lx, F8, 1/125 s		2,600 lx, F11, 1/31 s		2,100 lx, F8, 1/31 s	
Minimum Sensitivity (Video Level:50%)	2 lx (F1.4, Gain +24 dB)		3 lx (F1.4, Gain +24 dB)		2 lx (F1.4, Gain +24 dB)		3 lx (F1.4, Gain +24 dB)	
Image Output Format	Base configuration							
Tap Number	1 / 2 / 3 tap(s)							
Data Format	Mono8 / 10 / 12 bit		Bayer 8 / 10 / 12 bit		Mono8 / 10 / 12 bit		Bayer 8 / 10 / 12 bit	
Data Bit Depth	8 / 10 / 12 bit							
Pixel Clock (Camera Link)	37.5 / 50 / 83 MHz							
Pixel Readout Mode	All pixel, Scalable, Binning, Decimation							
Trigger Type	External Trigger							
Trigger Shutter Mode	Edge mode / Level mode							
Sequential Shutter	16 entry (max)							
Exposure Time	MANUAL mode : 14.8 μs ~ 16 s (Normally), 1.08 μs ~ 13.31 μs (HighFramerateMode=ON) Edge mode : 14.8 μs ~ 16 s (Normally), 1.08 μs ~ 13.31 μs (HighFramerateMode=ON) Level mode : over 14.8 μs							
Gain	0 to +24 dB (MANUAL)							
Black Level	-25 to +25 %							
White Balance	-				Manual, One push		Manual, One push	
Gamma / LUT	γ = 1.0 to 0.45 / In 12 bit, Out 12 bit							
Image Rotation	Mirroring, Flip							
Test pattern	✓							
Communication Protocol	Legacy / GenCP-IIDC2 mode							
Baud Rate	9,600 / 115,200 / 921,600 bps (Data: 8 bit, No parity, Start bit: 1 bit, Stop bit: 1 bit, No flow control)							
External Trigger Input	1 channel (CC1)							
Power Supply	DC +12 V ±10 % (PoCL)							
Power Consumption	1.6 W		1.6 W		1.7 W		1.7 W	
Lens Mount	C Mount							
Dust-proof Glass / IR Cut Filter	-							
Dimensions / Mass	29 (W) x 29 (H) x 26.5 (D) mm (Not including protrusion) / approx. 33 g							
Operation Assurance	Temperature : -5 °C to 45 °C, Humidity : 90 % or less (no condensation)							
Conformity	CE, FCC, RoHS, WEEE, GenCP, IIDC2							
Product Availability (CY)	Available		September 2021		Available		September 2021	

## Main Point

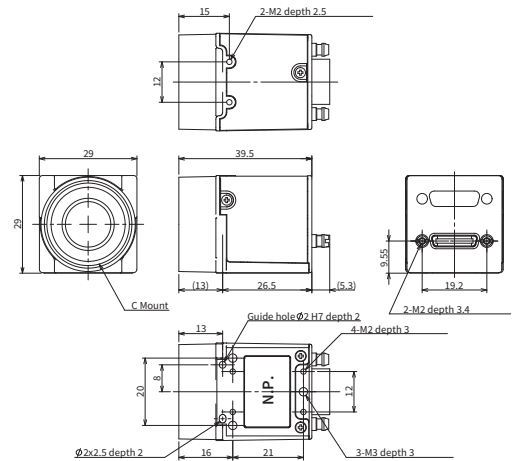
- Replacement with new camera model makes higher speed and higher sensitivity!

Model	BC040M	CSCV125BC3	BC160M	CSCS20BC2
Imager	0.4Mp CMOS (IMX287)	0.3Mp CCD (ICX424)	1.6Mp CMOS (IMX273)	1.4Mp CCD (ICX267)
Resolution	720 x 540 pix	648 x 494 pix	1,440 x 1,080 pix	1,360 x 1,024 pix
Pixel Size	6.90 x 6.90 μm	7.40 x 7.40 μm	3.45 x 3.45 μm	4.65 x 4.65 μm
Optical Size	1/2.9 type	1/3 type	1/2.9 type	1/2 type
Maximum Frame Rate	523 fps* (3 tap / 83MHz)	126 fps (1 tap / 49.09MHz)	148 fps (3 tap / 83MHz)	19.5 fps (2 tap / 60 MHz)
Relative Std. Sensitivity	324 lx (F5.6, 1/60s)	405 lx (F5.6, 1/60s)	1,258 lx (F5.6, 1/60s)	1,500 lx (F5.6, 1/60s)

\* : When 'High framerate mode' is ON

- Supports three types of pixel clock (PCLK = 37.5 / 50 / 83 MHz) :  
⇒ Connectable to the Frame Grabber Board for low-speed clock
- Useful data transfer with high efficiency :  
⇒ Output data format - Base Configuration 1 / 2 / 3 tap(s)

## Outline Drawing



## Notes on Safety

- Before using this product, please read "Operation Manual" carefully in order to use this product safely and correctly.
- If this product should be used in the extraordinary conditions or environments, or if you have any questions or problems, please contact our sales division.

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