

# Industrial Cameras

3Z4S-CA Series



# Make It Faster, Make It Simpler

OMRON has been developing high speed & high performance image processing systems in order to meet the needs of the automation world pursues. And now, image processing began to spread all over the world and the evolution speed of people want is getting higher. For our customers' satisfaction, we start to deliver OMRON SENTECH (former SENTECH)'s cameras. OMRON SENTECH is a manufacturer specializing in industrial cameras that became a new member of the OMRON group. Those cameras make the conventional systems simpler, faster and more flexible. Also they make it easy to assist the visual inspection to capture enlarged images without pc.



## Notes for Purchase

- Please contact the trading company for delivery date.
  - All cameras in this catalog can not be connected to the image processing system such as FH / FZ / FJ series
  - Please inform us its series name with the item nubner when you order
- Please refer to the example below

Model standard

Model 3Z4S-CA \_\_\_\_\_  
                  ↑                  ↑  
          Series name      Model in this catalog

example: in case of the camera

Model of order : 3Z4S-CA   STC-SBS43POE

Product Line-up				
Model	Monochrome	STC-SBS43POE	STC-SBE132POE	STC-SBS163POE
	Color	STC-SCS43POE	STC-SCE132POE	STC-SCS163POE
	NIR			
Resolution		0.4M	1.3M	1.6M
Frame Rate		265fps	61fps	69fps
Effective Pixels		728 × 544	1280 × 1024	1456 × 1088
Sensor Size		1/2.9	1/1.8	1/2.9
Cell Size(HxV, μm)		6.9 × 6.9	5.3 × 5.3	3.45 × 3.45
Sensor		IMX287	EV76C560	IMX273
Lens Mount		C	C	C
General Specifications				

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<div>USB</div>		<div>  <div>USB3.0</div> <div>P7~10</div> </div>	<div>USB</div>
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<div>CameraLink Over</div>		<div>  <div>CoaXPress</div> <div>P13~14</div> </div>	<div>CameraLink Over</div>
		<div>  <div>Opt-C:Link</div> <div>P15~16</div> </div>	
<div>CameraLink</div>		<div>  <div>CMOS Series</div> <div>P17~22</div> </div>	<div>CameraLink</div>
<div>DVI/SDI</div>		<div>  <div>DVI Series</div> <div>P23~24</div> </div>	<div>DVI/SDI</div>
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# How to Choose a Camera

## Camera Line-up Chart



### How to Choose an Image Sensor

- ☐ Monochrome
  - Mono or Color?
- ☐ Number of Pixels
  - Optimal Resolution for Your Application
- ☐ Scan Speed
  - Required FPS
- ☐ Sensor Size?

### How to Choose the Interface

- ☐ Connect to
  - Monitor or PC?
- ☐ Cable Length
  - Distance Between the Camera and the Equipment
- ☐ The Number of Cameras
  - How many cameras for one PC?

Based on factors such as decided specifications, system outline and cost image, refer to the following per-interface comparison table and product lineup chart to choose the optimum Sentech camera.

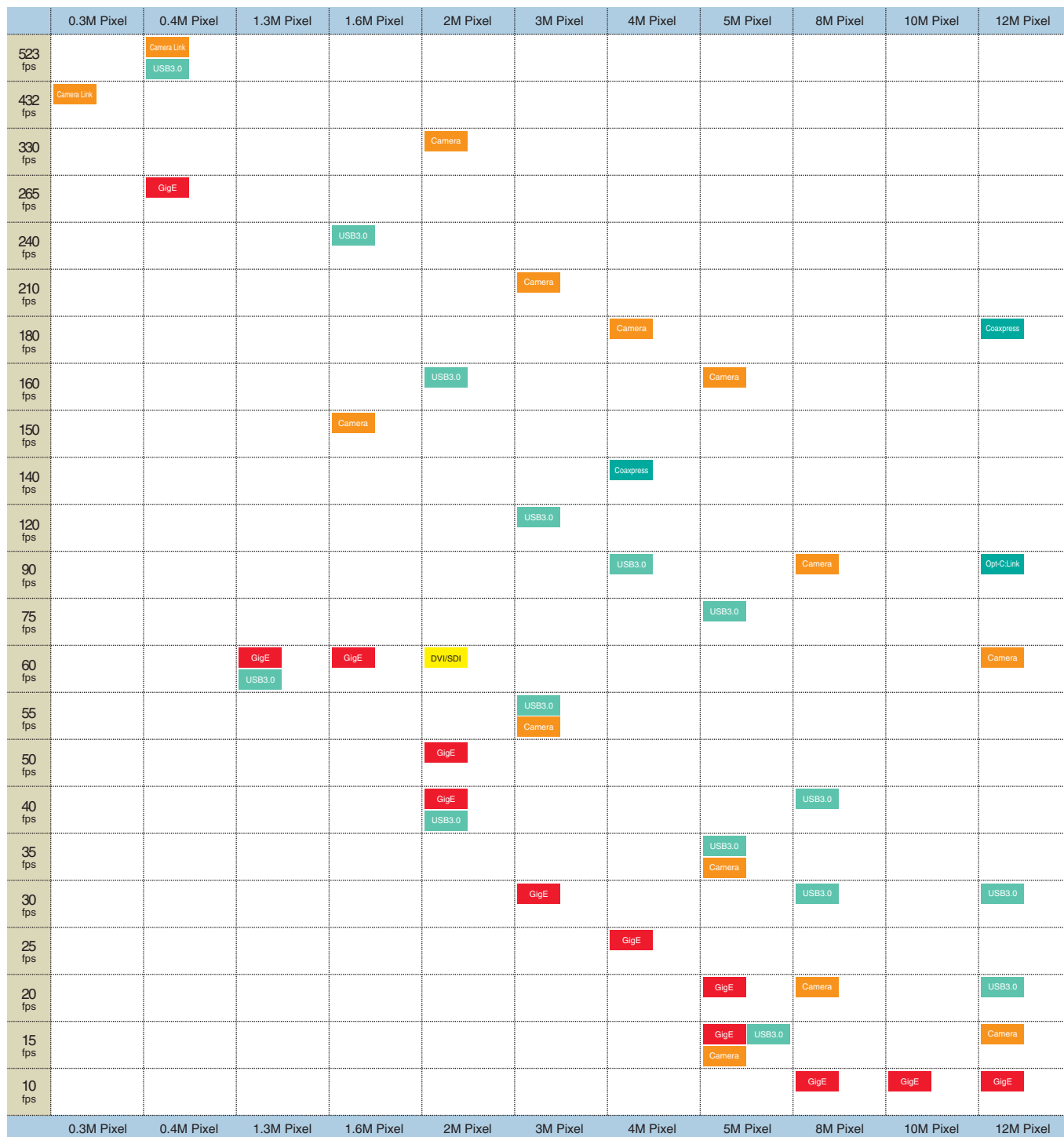
Interface when using a PC / Interface when not using a PC / Interface not offered by OMRON

Interfaces	GigE Vision®	USB		CoaXpress	Opt-C:Link	Camera Link		Analog	HD-DVI	HD-SDI	TV Formats	IEEE1394b	Camera Link HS
		USB2.0	USB3.0			Base	Full						
Monitor Display		PC Required				PC Required			Can be connected directly to monitor			PC Required	PC Required
Connection Port	Gigabit Ethernet Port	USB2.0 Port	USB3.0 Port	CoaXpress Grabber Board	Opt-C:Link Grabber Board	Camera Link Frame Grabber Board		Analog Frame Grabber Board	HDMI Port DVI Port	SDI connector	RCA connector BNC connector	Required	CameraLink HS Grabber Board
Cable	Ethernet cable Cat 5e or higher	USB2.0 Cable	USB3.0 Cable	Coaxial Cable	Optical cable	Camera Link Cable		12-pin Cable	HDMI/DVI Cable	Coaxial Cable for SDI	Coaxial Cable	IEEE1394b Cable	Camera LinkHS Cable
Max. Cable Length	100m	5m	3m	25m	150m	Approx. 5m to 12m		100m	5m	100m	100m	100m	15m
Image Transmission Capacity	☆☆	☆	☆☆☆	☆☆☆☆☆	☆☆☆☆☆	☆☆	☆☆☆☆	☆☆	☆☆	☆☆	☆	☆☆	☆☆
Max. Transmission Speed	122 fps 30 Megapixel - 15 fps 500 Megapixel (1,000Mbps)	90 fps 30 Megapixel - 15 fps 200 Megapixel (480Mbps)	123 fps 30 Megapixel - 14 fps 500 Megapixel (5,000Mbps)	25Gbps	12.5Gbps	240 fps 30 Megapixel - 16 fps 500 Megapixel (2,380Mbps)	600 fps 30 Megapixel - 60 fps 1200 Megapixel (7,140Mbps)	90 fps 30 Megapixel - 15 fps 200 Megapixel	60fps1080p	60fps1080p	59.94 fps 30 Megapixel (interlaced)	800Mbps	2,100Mbps
Power over Cable	○(PoE Model)	○(All Models)		○	-	○(PoCL Model)		Separate Power Supply	Separate Power Supply	Separate Power Supply	Separate Power Supply	○	○
Software Provider	Camera Manufacturer	Camera Manufacturer		Board Manufacturer	Board Manufacturer	Board Manufacturer		Board Manufacturer	Not required			Camera Manufacturer	Board Manufacturer
System Cost	Low	Low		High	High	High		High	Low	Mid	Low	Low	High
Multiple Device Connection	Add Ethernet card or use switching hub	Add USB port expansion card (hub not recommended)		Add frame grabber board	Add frame grabber board	Add frame grabber board		Add frame grabber board	Use switcher			IEEE1394b expansion card, use hub	Add frame grabber board
Advantages	- Long cable length - Cheap cost to connect multiple cameras - Frame grabber not required	- Easy to connect - Low cost - Cheap cost to connect multiple cameras		- Long cable length - High transmission capacity	- Long cable length - Strong to noise	- Proven track record - High transmission capacity		- Proven track record - Long cable length	- Can easily be connected directly to monitor	- Long cable length	- Proven track record - Low cost - Long cable length	- Proven track record	- High transmission capacity - Smaller connector compared with Camera Link
Disadvantages	- Lower fps comparing with other interfaces	- Short cable length		- No extensive track record - High board cost	- No extensive track record - Few compatible board	- Short cable length - High board and cable cost - High cost to connect multiple cameras		- High board and cable cost	- Short cable length - No trigger function	- Few SDI-compatible monitors	- Low resolution	- Short cable length - IEEE1394b card required	- High board and cable cost
Main Applications	- Image processing - Monitoring	- Image processing - Monitoring		- Image processing - Monitoring	- Image processing - Monitoring	- Image processing		- Image processing	- Monitoring		- Image processing - Monitoring	- Image processing	- Image processing

\*System costs, advantages and disadvantages are subjective opinions by OMRON

# Camera Line-up Chart

The horizontal indicates pixels and the vertical indicates frame rates



## GigE Vision CMOS Series



### Description

High resolution, high speed CMOS sensors adopted PoE compatible GigE camera

### Features

Sony CMOS [Pregius] adopted cameras are also available

### Product Line-up

Model	Monochrome	STC-SBS43POE	STC-SBE132POE	STC-SBS163POE	STC-CMB2MPOE	STC-SBS231POE	STC-SBS312POE
	Color	STC-SCS43POE	STC-SCE132POE	STC-SCS163POE	STC-CMC2MPOE	STC-SCS231POE	STC-SCS312POE
	NIR				STC-CMB2MPOE-IR		
Resolution		0.4M	1.3M	1.6M	2M	2.3M	3.2M
Frame Rate		265fps	61fps	69fps	50fps	41.6fps	33.3fps
Effective Pixels		728 × 544	1280 × 1024	1456 × 1088	2048 × 1088	1920 × 1200	2048 × 1536
Sensor Size		1/2.9	1/1.8	1/2.9	2/3	1/1.2	1/1.8
Cell Size(HxV, μm)		6.9 × 6.9	5.3 × 5.3	3.45 × 3.45	5.5 × 5.5	5.86 × 5.86	3.45 × 3.45
Sensor		IMX287	EV76C560	IMX273	CMV2000	IMX249	IMX265
Lens Mount		C	C	C	C	C	C
General Specifications							

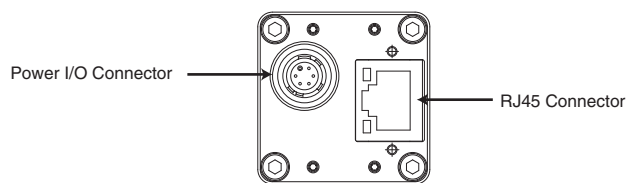
Model	Monochrome	STC-CMB4MPOE	STC-SBS500POE	STC-SBA503POE		STC-SBA1002POE	STC-SBS1242POE
	Color	STC-CMC4MPOE	STC-SCS500POE	STC-SCA503POE	STC-SCS853POE		STC-SCS1242POE
	NIR	STC-CMB4MPOE-IR					
Resolution		4M	5M	5M	8.3M	10M	12M
Frame Rate		25fps	21fps	14fps	12.7fps	10.4fps	8.7fps
Effective Pixels		2048 × 2048	2448 × 2048	2592 × 1944	3840 × 2160	3856 × 2764	4000 × 3000
Sensor Size		1	2/3	1/2.5	1/2.5	1/2.3	1/1.7
Cell Size(HxV, μm)		5.5 × 5.5	3.45 × 3.45	2.2 × 2.2	1.62 × 1.62	1.67 × 1.67	1.85 × 1.85
Sensor		CMV4000	IMX264	MT9P031	IMX274	MT9J003	IMX226
Lens Mount		C	C	C	C	C	C
General Specifications				Rolling Shutter	Rolling Shutter	Rolling Shutter	Rolling Shutter

\* STC-SBS/SCS43POE, STC-SBS/SCS163POE are scheduled to be released in December.

## External Connector's Specification

External Connectors

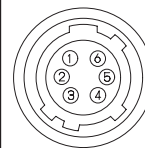
Ethernet: RJ45, Power Supply I/O: HR10A-7R-6PB (Hirose)



- ▶ HR10A-7R-6PB (Hirose) or equivalent
- ▶ This connector supplies both power (12V DC) and input / output signals
- ▶ Please use HR10A-7P -6S (Hirose) or equivalent for the cable

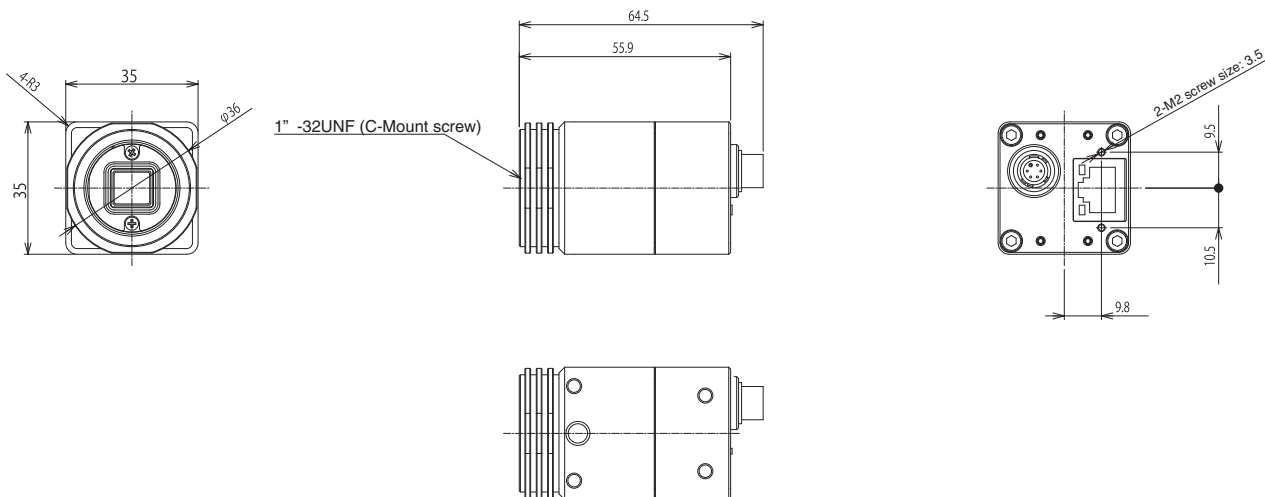
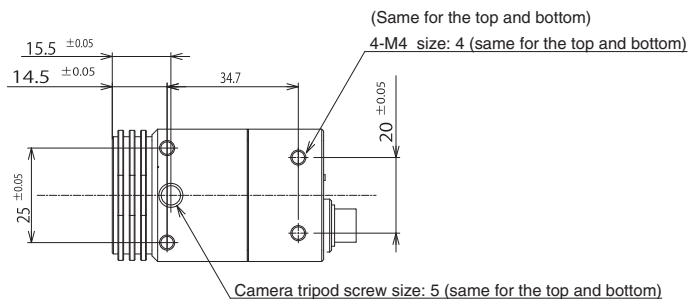
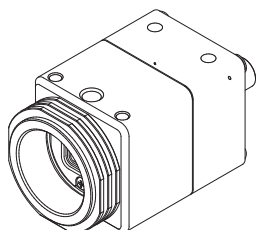
### Pin Assignments

Pin No.	Description	I/O	Signal Voltage
1	GND	IN	0V
2	Output1	OUT	Open Collector
3	Output2	OUT	Open Collector
4	TRG In- Opt.Isolated-	IN	Low: Smaller than +1.0V High: +3.0 to +26.4V
5	TRG In+ Opt.Isolated+	IN	*Potential difference between TRG_In- and TRG_In+
6	Power in	IN	+10.8 to 26.4 Vdc



- ▶ Output 1 and Output 2 can be assigned by the communication (Device Code=00H, Command=F0H and F1H)

## Drawing dimension



\* Drawings are differed by camera type. Please contact us.

## USB3.0 Series

USB



### Description

## USB3.0 Compact CMOS Camera

### Features

Sony CMOS [Pregius] adopted cameras are lined up  
High resolution-high speed CMOS sensors adopted  
Compact, robust and easy to attach

### Product Line-up

Model	monochrome	STC-MBS43U3V	STC-MBE132U3V	STC-MBS163U3V	STC-MBCM200U3V	STC-MBS231U3V	STC-MBS241U3V
	Color	STC-MCS43U3V	STC-MCE132U3V	STC-MCS163U3V	STC-MCCM200U3V	STC-MCS231U3V	STC-MCS241U3V
	NIR				STC-MBCM200U3V-NIR		
Resolution		0.4M	1.3M	1.6M	2M	2.3M	2.3M
Frame Rate		527.1fps	60fps	238.0fps	167fps	41.6fps	163fps
Effective Pixels		720 × 540	1280 × 1024	1440 × 1080	2048 × 1088	1920 × 1200	1920 × 1200
Sensor Size		1/2.9	1/1.8	1/2.9	2/3	1/1.2	1/1.2
Cell Size(HxV, μm)		6.9 × 6.9	5.3 × 5.3	3.45 × 3.45	5.5 × 5.5	5.86 × 5.86	5.86 × 5.86
Sensor		IMX287	EV76C560	IMX273	CMV2000	IMX249	IMX174
Lens Mount		C	CS	C	C	C	C
General Specifications		USB3Vision Available	USB3Vision Available	USB3Vision Available	USB3Vision Available	USB3Vision Available	USB3Vision Available

Model	monochrome	STC-MBS312U3V	STC-MBS322U3V	STC-MBCM401U3V	STC-MBS500U3V	STC-MBS510U3V	STC-MBA5MUSB3
	Color	STC-MCS312U3V	STC-MCS322U3V	STC-MCCM401U3V	STC-MCS500U3V	STC-MCS510U3V	STC-MCA5MUSB3
	NIR			STC-MBCM401U3V-NIR			
Resolution		3.2M	3.2M	4M	5M	5M	5M
Frame Rate		56fps	121fps	89fps	35.8fps	75.7fps	14fps
Effective Pixels		2048 × 1536	2048 × 1536	2048 × 2048	2448 × 2048	2448 × 2048	2592 × 1944
Sensor Size		1/1.8	1/1.8	1	2/3	2/3	1/2.5
Cell Size(HxV, μm)		3.45 × 3.45	3.45 × 3.45	5.5 × 5.5	3.45 × 3.45	3.45 × 3.45	2.2 × 2.2
Sensor		IMX265	IMX252	CMV4000	IMX264	IMX250	MT9P031
Lens Mount		C	C	C	C	C	CS
General Specifications		USB3Vision Available	USB3Vision Available	USB3Vision Available	USB3Vision Available	USB3Vision Available	Rolling Shutter, USB3.0 Vision not available

Model	monochrome	STC-MBS881U3V	STC-MBS891U3V	STC-MBS122BU3V	STC-MBS123BU3V
	Color	STC-MCS881U3V	STC-MCS891U3V	STC-MCS122BU3V	STC-MCS123BU3V
	NIR				
Resolution		8.9M	8.9M	12M	12M
Frame Rate		32.2fps	42.3fps	23.4fps	30.5fps
Effective Pixels		4096 × 2160	4096 × 2160	4096 × 3000	4096 × 3000
Sensor Size		1	1	1.1	1.1
Cell Size(HxV, μm)		3.45 × 3.45	3.45 × 3.45	3.45 × 3.45	3.45 × 3.45
Sensor		IMX267	IMX255	IMX304	IMX253
Lens Mount		C	C	C	C
General Specifications		USB3Vision Available	USB3Vision Available	USB3Vision Available	USB3Vision Available

\* 8.9M, 12M cameras may not have sufficient supply power with USB bus supply only depending on PC spec. We recommend you to use external power.

## Accessories

### Screw Lock USB3.0 Cables

Model	Applicable Model	Specification
NU3MBASU3S-2m	All USB3.0 Cameras	2m,USB3.0 MicroB,wish camera-side fastening screws
NU3MBASU3S-3.5m	All USB3.0 Cameras	3.5m,USB3.0 MicroB,wish camera-side fastening screws
NU3MBASU3B-2m	All USB3.0 Cameras	2m,USB3.0 MicroB,wish camera-side fastening screws,robot cables
NU3MBASU3B-3.5m	All USB3.0 Cameras	3.5m,USB3.0 MicroB,wish camera-side fastening screws,robot cables

\*Please make sure that USB 3.0 cables operate correctly under your environment beforehand

### CS to C-Mount Conversion Adapter

Item No.	Applicable Model	Specification
CS-C-R	CS Mount Series	

### Tripod Mount

Item No.	Relevant Cameras	Specification
TP-JVA	Except for STC-MCE/MBE132U3V, STC-MBA/MCA5MUSB	

## External Connector Specification

External Connector	USB: USB3.0 MicroB type, I/O signals: HR10A-7R-6PB(Hirose) or equivalent
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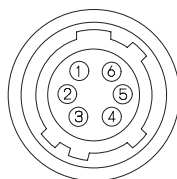
- This connector is for the output signal, not for the power of the camera. The camera power is supplied in +5V from the USB cable

It does not affect the voltage for the input signal

### Pin Assignment

Pin No.	Signal Name	I/O	Signal Voltage	
			Low	High
1	GND for I/O signal	-	0V	
2	Output 2(IO3)	OUT	0.8V or lower	+3.3 - +24V
3	Output 1(IO2)	OUT	0.8V or lower	+3.3 - +24V
4	Input 2(IO1)	IN	0.7V or lower	+2.5 - +5V
5	Input 1(IO0)	IN	0.7V or lower	+2.5 - +5V
6	Power supply for output signal (IO_VCC)	-	+3.3 to +24 Vdc	

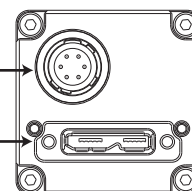
\*Example shown for reference



[Rear view]

I/O signal connector

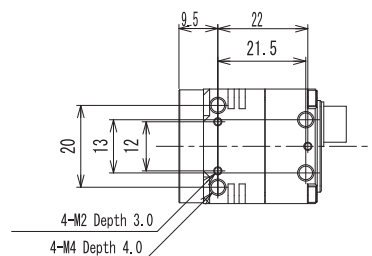
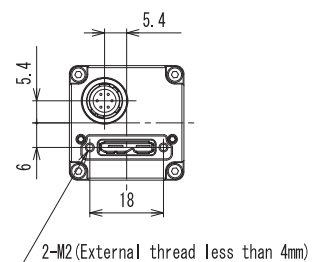
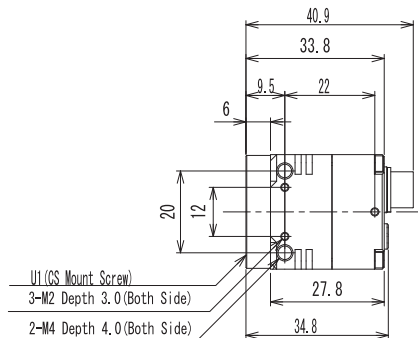
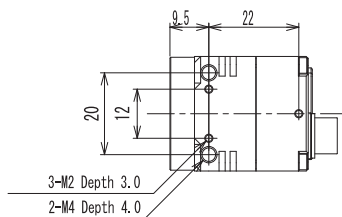
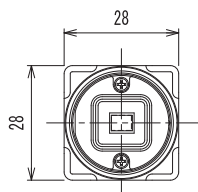
USB3.0 microB connector



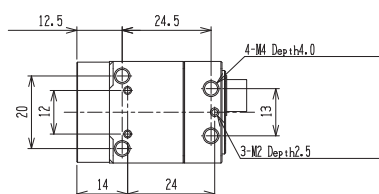
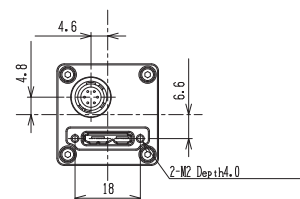
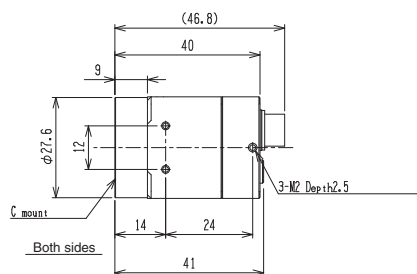
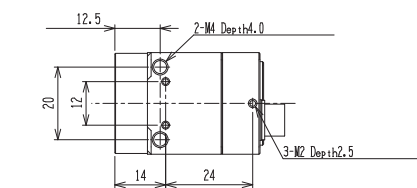
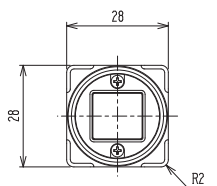
\*Please use HR10A-7P-6S (Hirose) or equivalent for the cable

## Drawing dimension

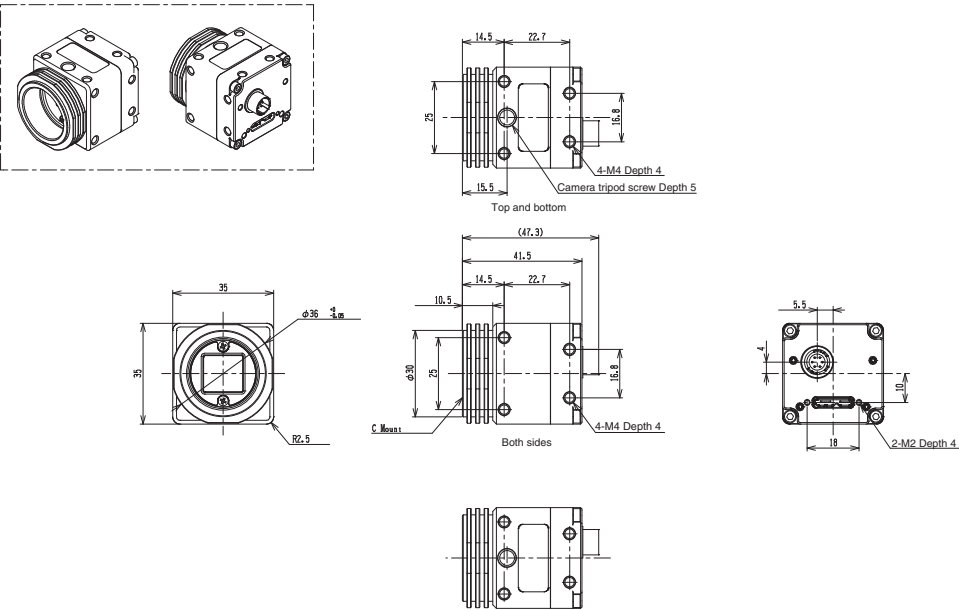
STC-MBE/MCE132U3V  
STC-MBA/MCA5MUSB3



STC-MBS/MCS43U3V  
STC-MBS/MCS163U3V  
STC-MBCM/MCCM200U3V  
STC-MBCM/MCCM401U3V  
STC-MBS/MCS241U3V  
STC-MBS/MCS231U3V  
STC-MBS/MCS312U3V  
STC-MBS/MCS322U3V  
STC-MBS/MCS500U3V  
STC-MBS/MCS510U3V



STC-MBS/MCS881U3V  
STC-MBS/MCS891U3V  
STC-MBS/MCS122BU3V  
STC-MBS/MCS123BU3V



USB

## USB3.0 Small CMOS camera S133 Series

USB



### Description

CMOS Camera  
Small Color Camera

### Features

Plug & Play USB camera

### Product Line-up

Model	Color	STC-S133UVC-**
Resolution		1.3M
Frame Rate		60/30fps
Effective Pixels		1280 × 720/1280 × 960
Sensor Size		1/3.2
Cell Size(HxV, μm)		3.5 × 3.5
Sensor		ISX017

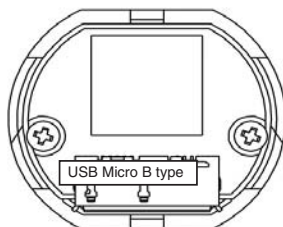
\*Please select one among above when you order

### Line-up

Model	Monochrome/Color	Sensor Size	Mount
STC-S133UVC-BL	Color	1/3.2	Base(Without lens mount)
STC-S133UVC-BLL			Fixed Lens
STC-S133UVC-BLCS			CS

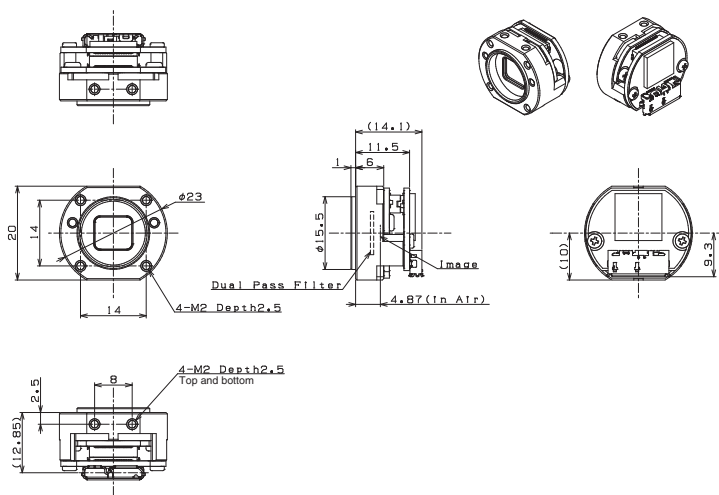
\*STC-S133UVC Series are scheduled to be released in December.

## External Connector Specification

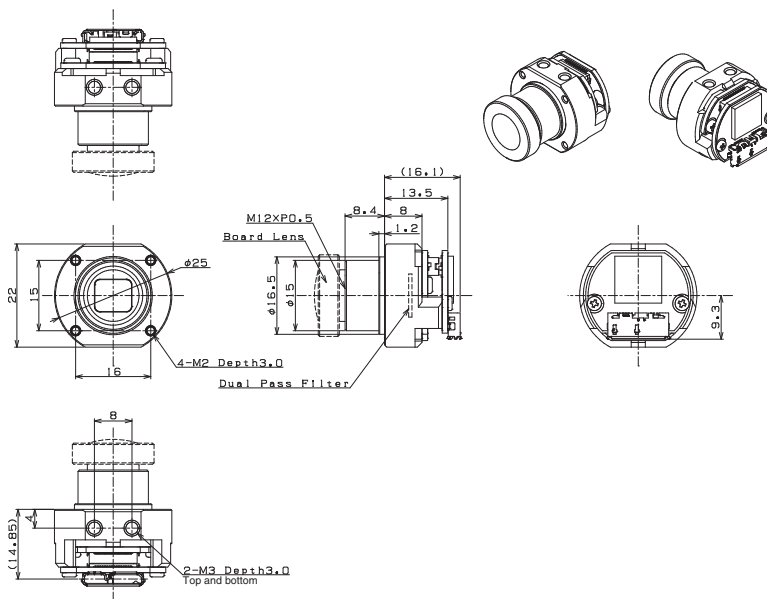


## Drawing dimension

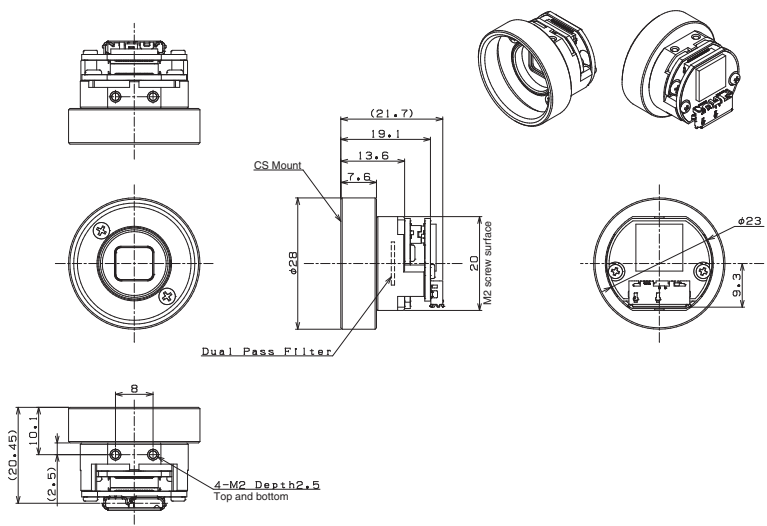
STC-S133UVC-BL



STC-S133UVC-BLL



STC-S133UVC-BLCS





## Description

High Speed CMOS CoaxPress Camera

## Features

4M, 12M

High speed (186fps at 12M pixel)

Light angle type also available

## Product Line-up

Model No.	Monochrome	STC-CMB401CXP	STC-CMB120ACXP	STC-CMB120ACXP-T	STC-CMB120ACXP-F	STC-CMB120ACXP-T-F
	Color	STC-CMC401CXP	STC-CMC120ACXP	STC-CMC120ACXP-T	STC-CMC120ACXP-F	STC-CMC120ACXP-T-F
Resolution		4M	12M	12M	12M	12M
Frame Rate		142.5fps	186fps	186fps	186fps	186fps
Effective Pixels		2048 × 2048	4096 × 3072	4096 × 3072	4096 × 3072	4096 × 3072
Sensor Size		1	1.76	1.76	1.76	1.76
Cell Size (HxV, μm)		5.5 × 5.5	5.5 × 5.5	5.5 × 5.5	5.5 × 5.5	5.5 × 5.5
Sensor		CMV4000	CMV12000	CMV12000	CMV12000	CMV12000
Lens Mount		C	M42 P=1 FB=10mm	M42 P=1 FB=10mm	F	F
General Specifications		PoCXP Copatibility, 1Lane	PoCXP Copatibility, 4Lane, Connector from rear	PoCXP Copatibility, 4Lane, Connector from Upperside	PoCXP Copatibility, 4Lane, Connector from rear	PoCXP Copatibility, 4Lane, Connector from upperside

\*CoaxPress Series are scheduled to be released in December.

## Accessories

Mount Conversion Adapter		
Model No,	Supported Models	General Specifications
M42-F-R	12M Model	M42 P=1 FB=10mm → Fmount Conversion Adapter

## External Connector Specification

HR10A-7R-6PB (Hirose) or equivalent

The connector for the trigger signal output

Trigger input available by changing camera setting

Please use the HR10A-7P-6S (Hirose) or equivalent for the cable

### 2.3.1 Pin Assignments

Pin No.	Signal Name	I/O
1	IO_GND	-
2	GPIO2	IN/OUT
3	GPIO1	IN/OUT
4	GPIO0	IN/OUT
5	N.C.	-
6	N.C.	-

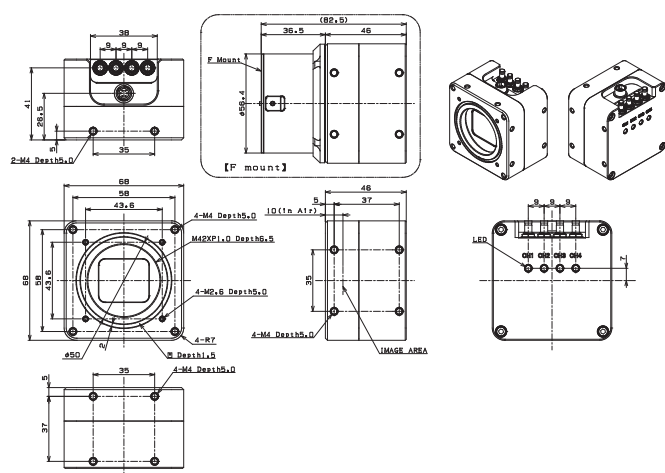


\*GPIO0, GPIO1, GPIO2 maximum rated voltage that can be applied to will be 24V

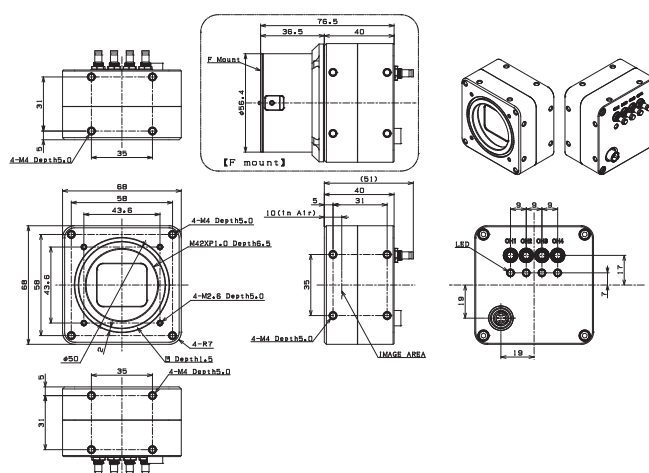
\*N.C. terminal, please use as electrically OPEN

## Drawing dimension

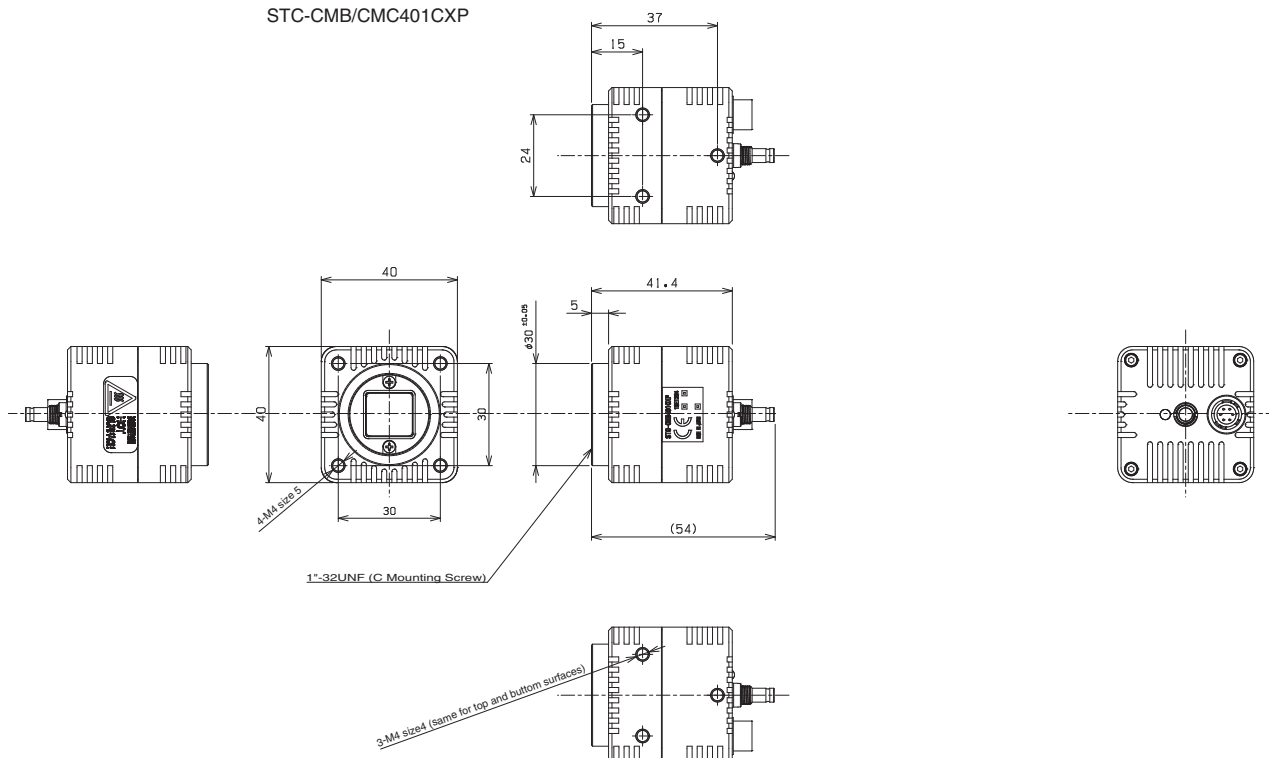
STC-CMB/CMC120ACXP-T



STC-CMB/CMC120ACXP



STC-CMB/CMC401CXP



# Opt-C:Link



## Description

High Speed Opt-C: Link

## Features

High FPS (93.4FPS at 12M pixel) achieved  
Cable extension, noise resistance by using optical cable

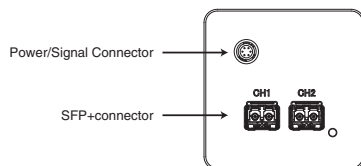
Product Line-up		
Model No,	Monochrome	STC-CMB120AOPT
	Color	STC-CMC120AOPT
Resolution		12M
Frame Rate		93.4fps
Effective Pixels		4096 × 3072
Sensor Size		1.76
Cell Size (HxV, μm)		5.5 × 5.5
Sensor		CMV12000
Lens Mount		M42, F Mount(Optional)
General Specifications		External power supply, SFP+optical connectorx2

\*Opt-C:Link Series are scheduled to be released in December.

Accessories		
Mount Conversion Adapter		
Model No,	Applicable Model	General Specification
M42-F-R	12M Model	M42 P=1 FB=10mm → Fmount Conversion Adapter

## External Connector Specification

### External Connector Specification



SFP+connector  
57D9AMZ (AVAGO) or equivalentx2

Channel : 2CH  
Transmission Rate : 6.25Gbps  
Transmission Mode : MultiMode  
Laser Format : 850nmVCSEL  
Laser Safety Standard : Class 1  
Connector Type : LC connector  
Cable Spec : CoreØ 50µm/62.5µm, CladØ 125µm,

Please supply power (12Vdc) from the power-I/O connector  
Please use CH1, CH2 connector with connecting cables

2 Power/Signal Connector  
HR10A-7R-6PB (Hirose) or equivalent  
Connector for power (12Vdc) , Trigger signal  
Trigger signal can be generated by camera setting  
Please use an HR10A-7P-6S (Hirose) equivalent for the cable

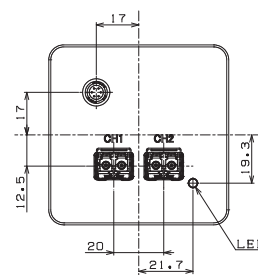
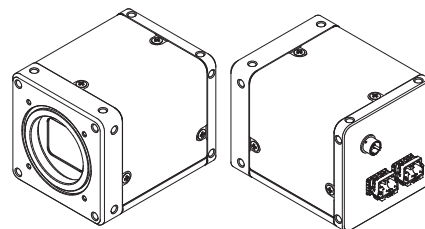
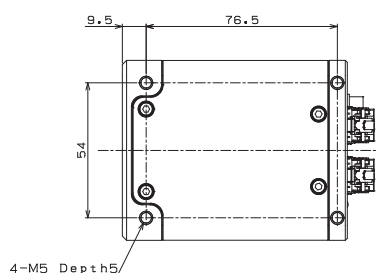
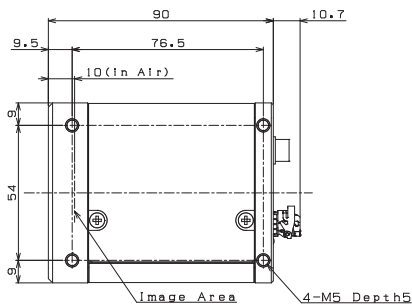
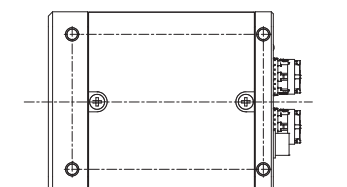
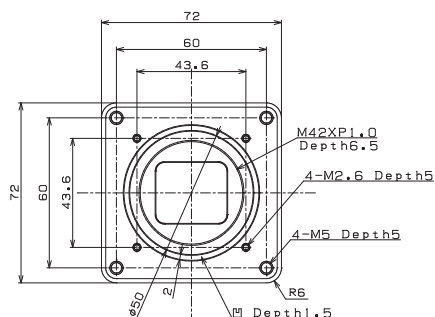
### Pin Assignment

PIN No.	Signal Name	IN/OUT	Signal Voltage	
			LOW Voltage	HIGH Voltage
1	GND	IN		
2	SP4	IN/OUT	IN 0 ~ +0.99V	+2.3 ~ +3.6V
		OUT	0V	+3.3V
3	SP3	IN/OUT	IN 0 ~ +0.99V	+2.3 ~ +3.6V
		OUT	0V	+3.3V
4	SP2	IN/OUT	IN 0 ~ +0.99V	+2.3 ~ +3.6V
		OUT	0V	+3.3V
5	SP1	IN/OUT	IN 0 ~ +0.99V	+2.3 ~ +3.6V
		OUT	0V	+3.3V
6	+12Vdc	IN		+12Vdc



Trigger input signal can be assigned either on Opt-Click trigger packet (CC1) or on the No. 2 pin of the power/I/O connector through the camera setting communication.

## Drawing dimension



# CameraLink CMOS



## Description

### High Speed CMOS Camera Link Series

## Features

Sony CMOS [Pregius] are also available

High resolution and high FPS implemented simultaneously  
by high performance CMOS sensor

## Product Line-up

Model	Monochrome	STC-CMB33PCL	STC-SPB43PCL	STC-SPB163PCL	STC-CMB200PCL	STC-SPB312PCL	STC-SPB322PCL
	Color	STC-CMC33PCL	STC-SPC43PCL	STC-SPC163PCL	STC-CMC200PCL	STC-SPC312PCL	STC-SPC322PCL
	NIR				STC-CMB200PCL-NIR		
Resolution		VGA	0.4M	1.6M	2M	3.2M	3.2M
Frame Rate		432fps	523.5fps	152.4fps	333fps	57.1fps	216.2fps
Effective Pixels		642 × 484	720 × 540	1440 × 1080	2048 × 1088	2048 × 1536	2048 × 1536
Sensor Size		1/3	1/2.9	1/2.9	2/3	1/1.8	1/1.8
Cell Size(HxV, μm)		7.4 × 7.4	6.9 × 6.9	3.45 × 3.45	5.5 × 5.5	3.45 × 3.45	3.45 × 3.45
Sensor		CMV300	IMX287	IMX273	CMV2000	IMX265	IMX252
Lens Mount		C	C	C	C	C	C
General Specifications		PoCL,automatically switched, SDR connectorx2	PoCL,automatically switched, SDR connectorx1	PoCL,automatically switched, SDR connectorx1	PoCL,automatically switched, SDR connectorx2	PoCL,automatically switched, SDR connectorx1	PoCL,automatically switched, SDR connectorx2

Model	Monochrome	STC-CMB401PCL	STC-APB503PCL	STC-SPB500PCL	STC-SPB510PCL	STC-SPB881PCL	STC-SPB891PCL
	Color	STC-CMC401PCL	STC-APC503PCL	STC-SPC500PCL	STC-SPC510PCL	STC-SPC881PCL	STC-SPC891PCL
	NIR	STC-CMB401PCL-NIR					
Resolution		4M	5M	5M	5M	8.9M	8.9M
Frame Rate		180fps	14fps	35.7fps	163.4fps	20.6fps	91.3fps
Effective Pixels		2048 × 2048	2592 × 1944	2448 × 2048	2448 × 2048	4096 × 2160	4096 × 2160
Sensor Size		1	1/2.5	2/3	2/3	1	1
Cell Size(HxV, μm)		5.5 × 5.5	2.2 × 2.2	3.45 × 3.45	3.45 × 3.45	3.45 × 3.45	3.45 × 3.45
Sensor		CMV4000	MT9P031	IMX264	IMX250	IMX267	IMX255
Lens Mount		C	C	C	C	C	C
General Specifications		PoCL,automatically switched, SDR connectorx2	PoCL,automatically switched, SDR connectorx1	PoCL,automatically switched, SDR connectorx1	PoCL,automatically switched, SDR connectorx2	PoCL,automatically switched, SDR connectorx1	PoCL,automatically switched, SDR connectorx2

Model	Monochrome	STC-SPB122BPCL	STC-SPB123BPCL	STC-CMB120APCL	STC-CMB120APCL-F
	Color	STC-SPC122BPCL	STC-SPC123BPCL	STC-CMC120APCL	STC-CMC120APCL-F
	NIR				
Resolution		12M	12M	12M	12M
Frame Rate		15fps	66.9fps	62.3fps	62.3fps
Effective Pixels		4096 × 3000	4096 × 3000	4096 × 3072	4096 × 3072
Sensor Size		1.1	1.1	1.76	1.76
Cell Size(HxV, μm)		3.45 × 3.45	3.45 × 3.45	5.5 × 5.5	5.5 × 5.5
Sensor		IMX304	IMX253	CMV12000	CMV12000
Lens Mount		C	C	M42 P=1 FB=10mm	F
General Specifications		PoCL,automatically switched, SDR connectorx1	PoCL,automatically switched, SDR connectorx2	PoCL,automatically switched, SDR connectorx2	PoCL,automatically switched, SDR connectorx2

\*STC-SPB/SPC42PCL,STC-SPB/SPC163PCL,STC-SPB/SPC881PCL,STC-SPB/SPC122PCL are scheduled to be released in December.

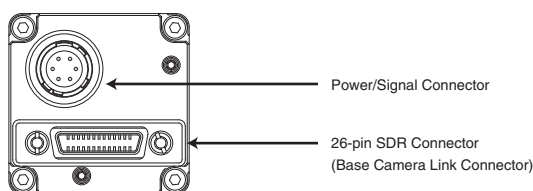
## Accessories

### Mount Conversion Adapter

Model No,	Supported Models	General Specifications
M42-F-R	12M Model	M42 P=1 FB=10mm → Fmount Conversion Adapter

## External Connector Specification

External Link Connectors	Camera Link connector: miniature connector (SDR) x 1, power supply I/O: HR10A-7R-6PB (Hirose) or equivalent
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When used with the base configuration, connect the Camera Link cable to the Base connector for use.

PoCL Available

\*When used with Medium/Full/10tab configuration, please see the specification for applicable model

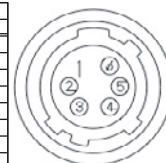
### Pin Assignment

#### Base Camera Link Connector

Pin No.	Signal Name	Pin No.	Signal Name
1	+12V	14	GND
2	X0-	15	X0+
3	X1-	16	X1+
4	X2-	17	X2+
5	Xclk-	18	Xclk+
6	X3-	19	X3+
7	SerTC+	20	SerTC-
8	SerTFG-	21	SerTFG+
9	CC1- (TRG)	22	CC1+ (TRG)
10	CC2+	23	CC2-
11	CC3-	24	CC3+
12	CC4+	25	CC4-
13	GND	26	+12V

### Pin Assignment

Pin No.	Signal Name	IN/OUT	Signal Voltage	
			Low Voltage	High Voltage
1	GND	IN	0V	
2	SP-4	IN/OUT	IN	0~+0.99V +2.3~+5.0V
			OUT	0V +3.3V
3	SP-3	IN/OUT	IN	0~+0.99V +2.3~+5.0V
			OUT	0V +3.3V
4	SP-2	IN/OUT	IN	0~+0.99V +2.3~+5.0V
			OUT	0V +3.3V
5	SP-1	IN/OUT	IN	0~+0.99V +2.3~+5.0V
			OUT	0V +3.3V
6	+12Vdc	IN	+12Vdc	

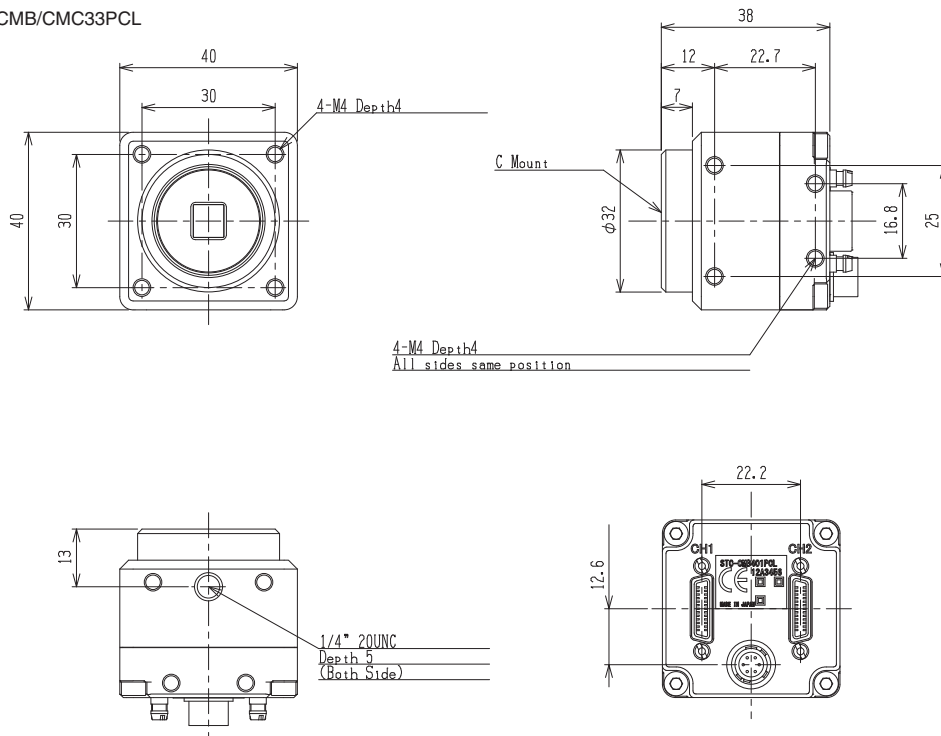


The trigger signal can be input from either one of the connectors listed below by the setting of the camera using communication  
Camera Link connector (CC1) or power supply I/O connector (No. 2)

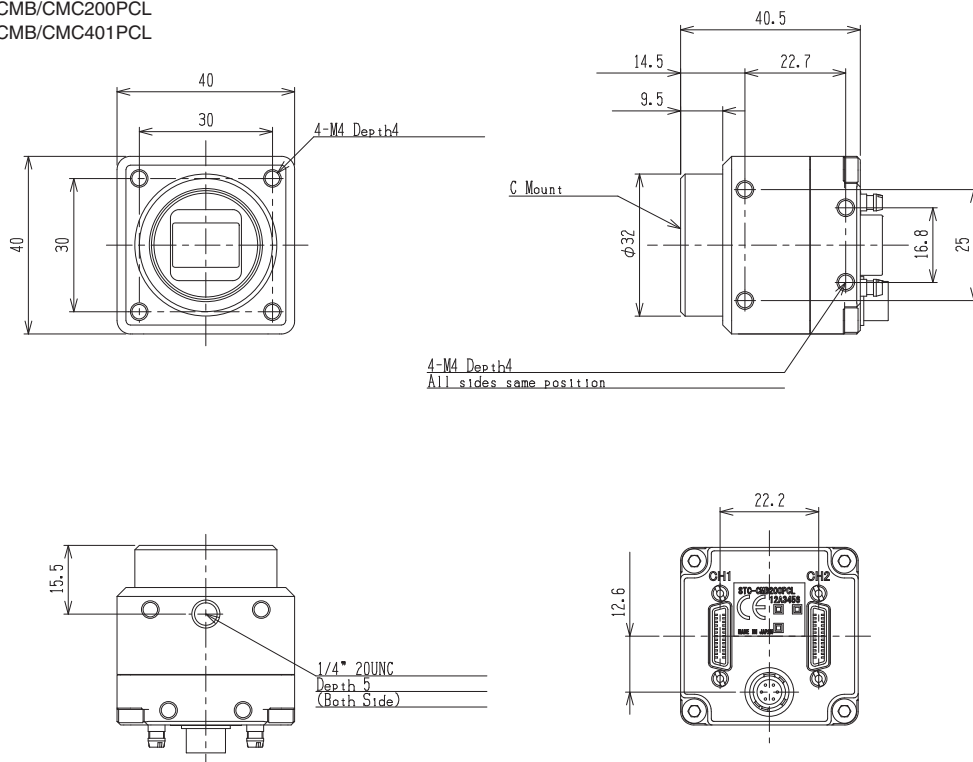
\*Please use HR10A-7P-6S (Hirose) or equivalent for the cable

## Drawing dimension

STC-CMB/CMC33PCL



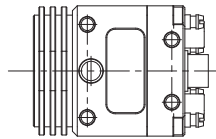
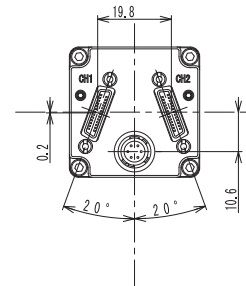
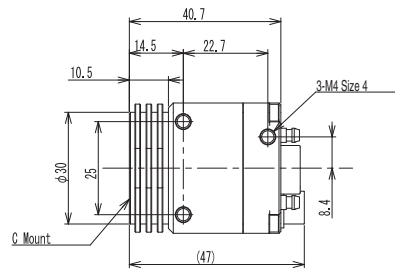
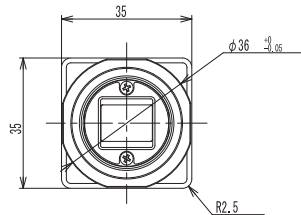
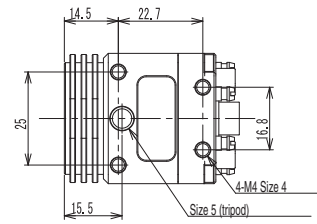
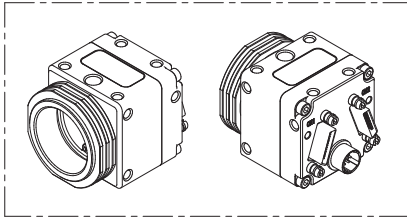
STC-CMB/CMC200PCL  
STC-CMB/CMC401PCL



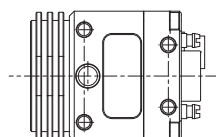
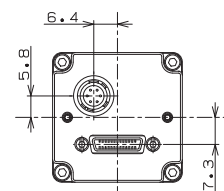
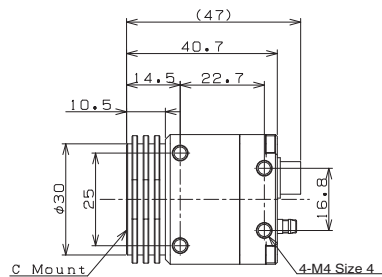
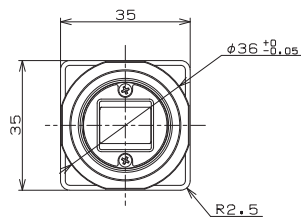
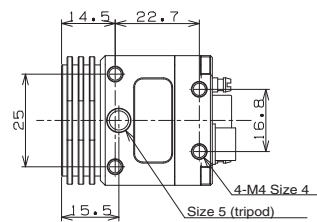
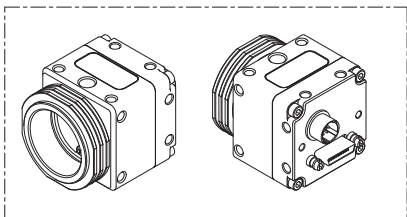


## Drawing dimension

STC-SPB/SPC322PCL  
STC-SPB/SPC510PCL  
STC-SPB/SPC891PCL  
STC-SPB/SPC123BPCL

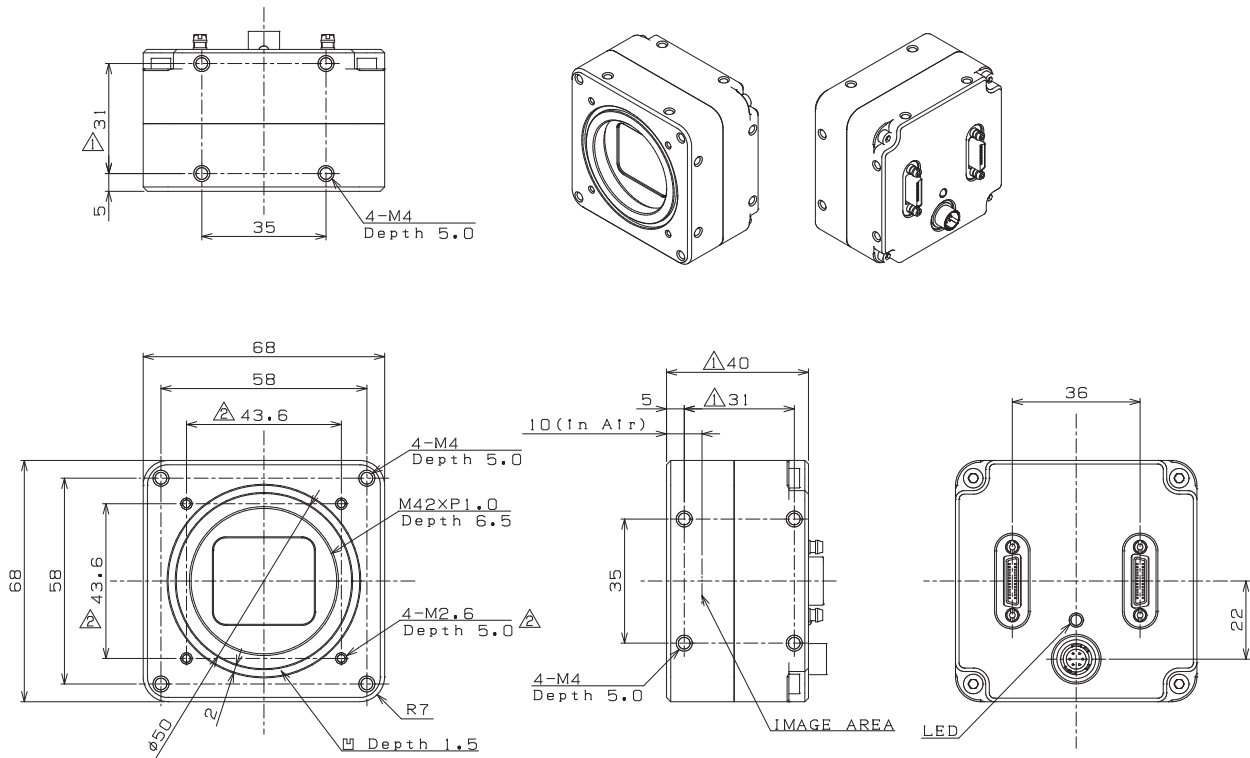


STC-SPB/SPC312PCL  
STC-SPB/SPC500PCL  
STC-SPB/SPC881PCL  
STC-SPB/SPC122BPCL

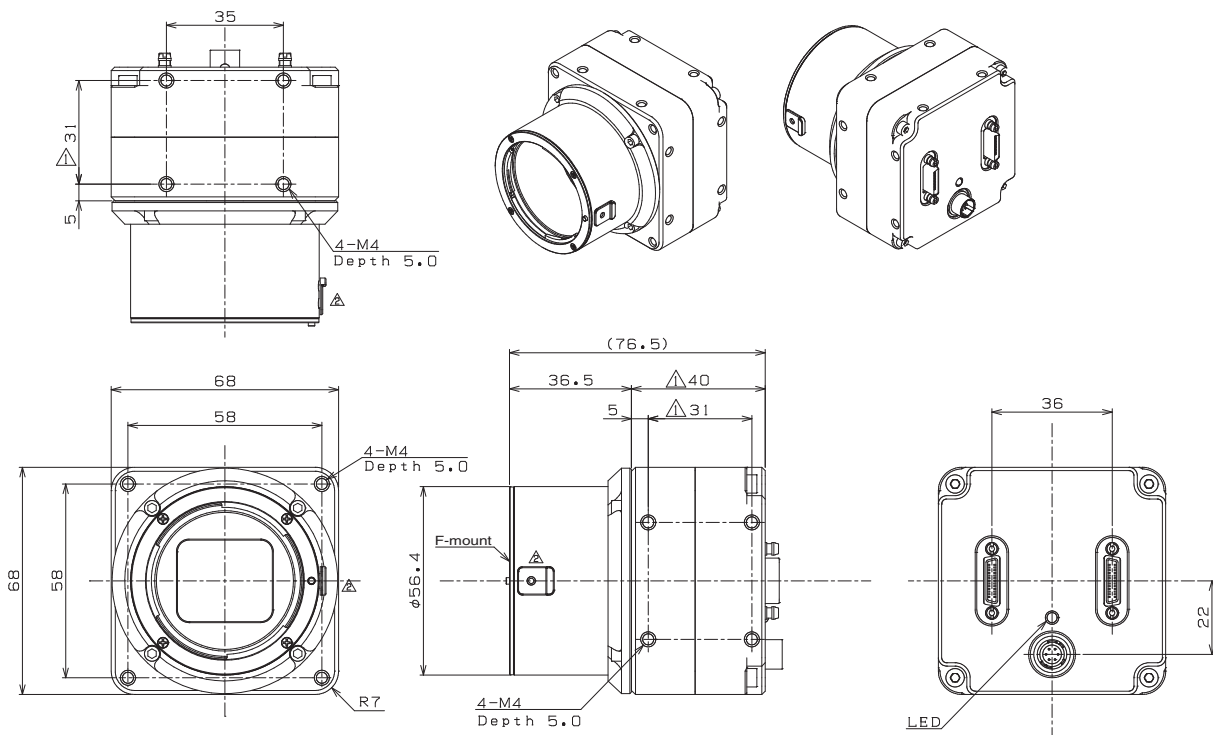


## Drawing dimension

STC-CMB/CMC120APCL



STC-CMB/CMC120APCL-F



## HD High-Definition Camera



### Description

#### DVI Output Color Camera

### Features

Connectable to the monitor directly using HDMI connector enables observing system without PC. Enables a display of the crosshair and shadow masks by using the optional remote unit.

### Product Line-up

Model No,	Color	STC-HD203DV	STC-HD203DV-CS
Resolution		High-Definition 1080P	High-Definition 1080P
Frame Rate		60fps	60fps
Effective Pixels		1920 × 1080	1920 × 1080
Sensor Size		1/2.8	1/2.8
Cell Size (HxV, μm)		2.8 × 2.8	2.8 × 2.8
Sensor Type		CMOS	CMOS
Sensor		IMX136	IMX136
Lens Mount		C	CS
General Specifications		Case	Case

\*HD High-Definition Camera Series are scheduled to be released in December.

### Accessories

CS-to-C-Mount Conversion Adapter		
Model No,	Applicable Model	General Specification
CS-C-R	CS Mount Camera	

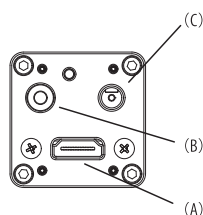
Remote Control Unit		
Model No,	Applicable Model	General Specification
RC-HD133	All DVI/SDI Camera	ø3.5 stereo pin jack

\*RC-HD133 are scheduled to be released in December.

## External Connector Specification

External Link Connectors

HDMI connector: DVI 1.0 compliant, power supply: MP-121C (Marushin Musen Denki) equivalent, communications: ø3.5 stereo pin jack



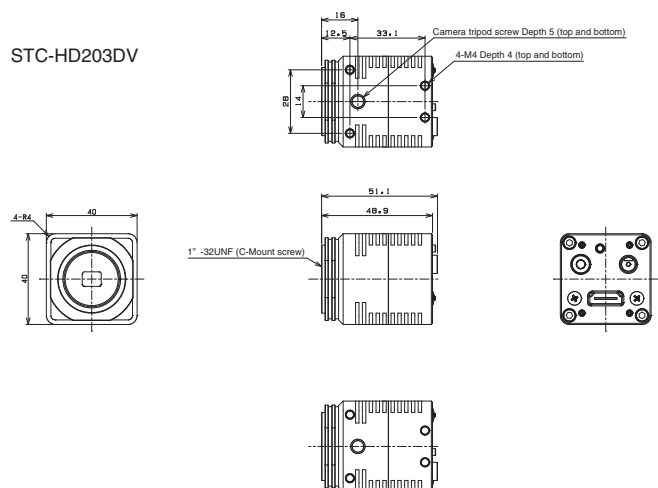
(A) HDMI connector  
The output is DVI1.0 compliant.

(B) ø3.5 stereo pin jack for remote  
switch the connector for the configuration of  
various camera functions.

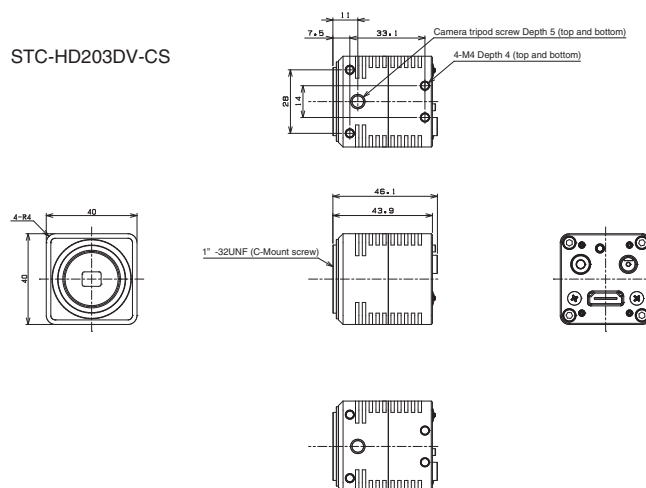
(C) Power supply connector  
Compatible plug  
Marushin Musen Denki MP-121 or equivalent

## Drawing dimension

STC-HD203DV



STC-HD203DV-CS



## HD-SDI HD Camera



### Description

#### HD-SDI Output Color Camera

### Features

Connectable to the monitor directly by versatile BNC connectors. Suitable for the long distance image transmission. Enables a display of the crosshair and shadow masks by using the optional remote unit.

### Product Line-up

Model No.	Color	STC-HD203SDI	STC-HD203SDI-CS
Resolution		High-Definition 1080P	High-Definition 1080P
Frame Rate		60fps	60fps
Effective Pixels		1920 × 1080	1920 × 1080
Sensor Size		1/2.8	1/2.8
Cell Size (HxV, μm)		2.8 × 2.8	2.8 × 2.8
Sensor Type		CMOS	CMOS
Sensor		IMX136	IMX136
Lens Mount		C	CS
General Specification		Case	Case

\*HD High-Definition Camera Series are scheduled to be released in December.

### Accessories

CS-to-C-Mount Conversion Adapter		
Model No.	Applicable Model	General Specification
CS-C-R	CS Mount Camera	

Remote Control Unit		
Model No.	Applicable Model	General Specification
RC-HD133	All DVI/SDI Camera	ø3.5 stereo pin jack

\*RC-HD133 are scheduled to be released in December.

## External Connector Specification

External Link Connectors

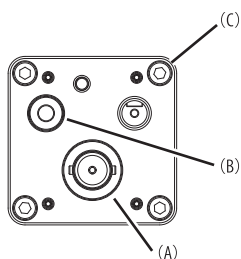
BNC connector: for HD-SDI, power supply: MP-121C (Marushin Musen Denki) or equivalent, communications: ø3.5 stereo pin jack

- (A) BNC connector  
The output is SMPTE292M compliant

- (B) ø3.5 stereo pin jack for remote  
switch the connector for the configuration of  
various camera functions.

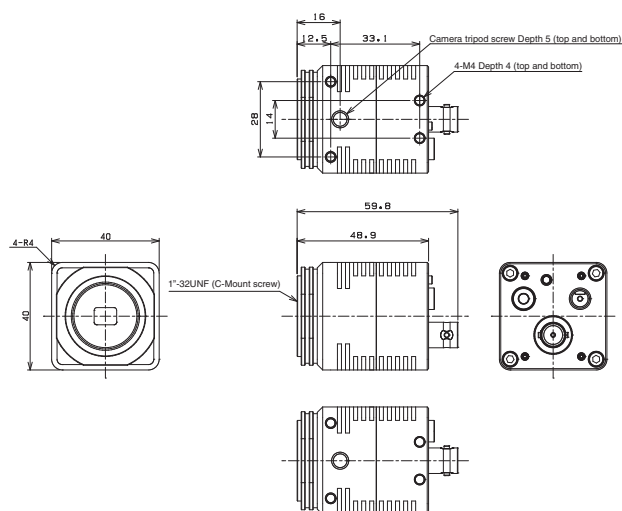
- (C) Power supply connector

Compatible plug  
Marushin Musen Denki MP-121 equivalent

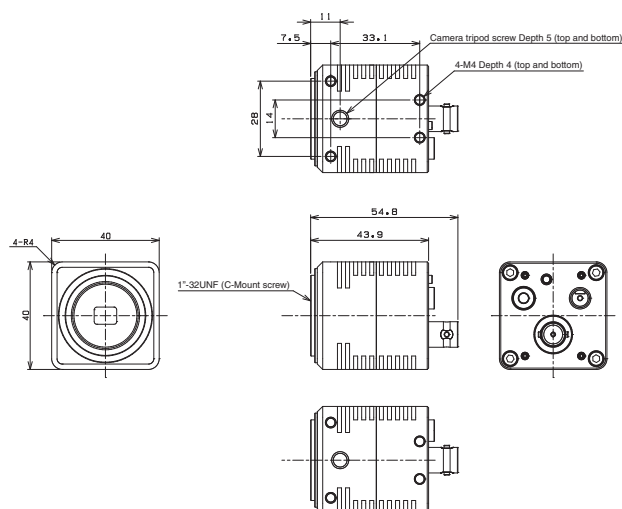


## Drawing dimension

HD203SDI



HD203SDI-CS



# TV Format Small CMOS camera S133 Series



## Description

Small Color CMOS Camera

## Features

- Compact Size TV Format (NTSC/PAL) Camera
- Ideal for Narrow Spaces
- Variable Size Lens Mounts

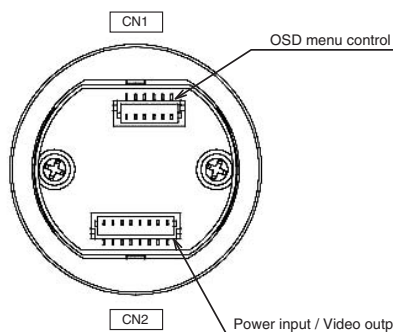
Product Line-up			
Model	Color	STC-S133N-**-	STC-S133P-**-
Resolution		0.65M	0.65M
Video Format		NTSC	PAL
Effective Pixels		1280 × 486	1211 × 576
Sensor Size		1/3.2	1/3.2
Cell Size(HxV, μm)		3.5 × 3.5	3.5 × 3.5
Sensor		ISX017	ISX017

\*Please select one among above when you order

Line-up					
Model	Monochrome/Color	Sensor Size	Mount	Video Format	General Specification
STC-S133N	Color	1/3.2	Base(Without lens mount)	NTSC	
STC-S133N-L			Fixed Lens		
STC-S133N-CS			CS		
STC-S133P			Base(Without lens mount)	PAL	
STC-S133P-L			Fixed Lens		
STC-S133P-CS			CS		

\*STC-S133 Series are scheduled to be released in December.

## External Connector Specification



Power input / video output / UART communication connector

### Pin assignment

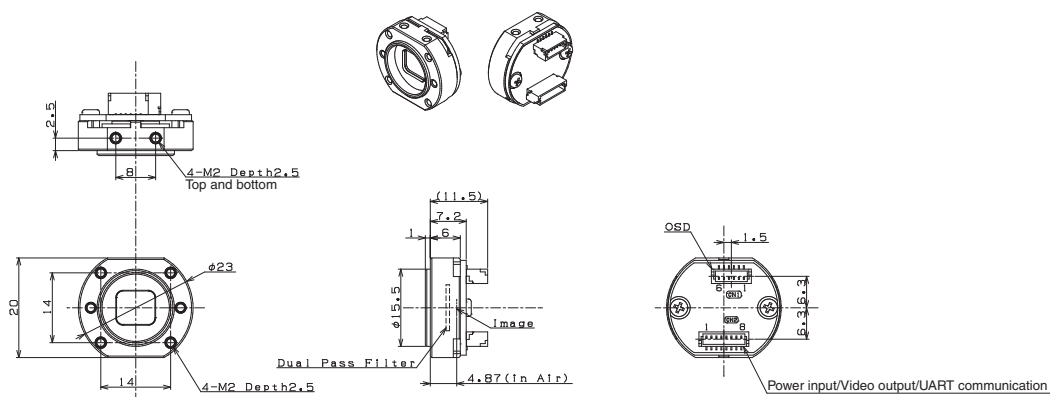
No.	Signal name	Descriptions
1	GND	Power GND
2	DC12V	+12V dc power input
3	GND	Video GND
4	VIDEO_OUT	Video signal output
5	EXSI	UART input (3.3V CMOS)
6	EXSO	UART output (3.3V CMOS)
7	WB_LOCK	White balance lock input *1
8	GND	GND

OSD menu control  
Pin assignment

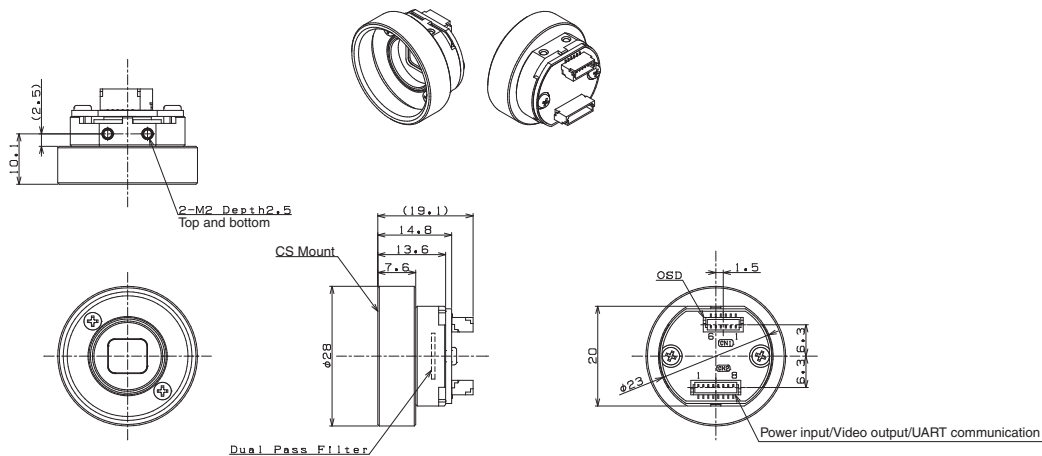
No.	Signal name	Descriptions
1	UP	OSD Menu Up
2	ENTER	OSD Menu Enter
3	LEFT	OSD Menu Left
4	RIGHT	OSD Menu Right
5	DOWN	OSD Menu Down
6	GND	GND

## Drawing dimension

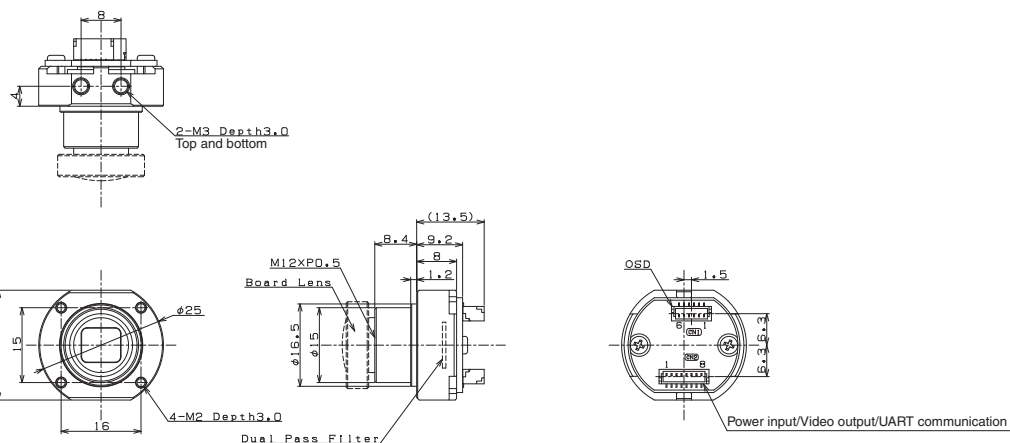
STC-S133



STC-S133N(P)-CS



STC-S133N(P)-L



## Line Scanning Camera CameraLink Model



### Description

Camera Link Line Scan Camera

### Features

A Large Variety of Line-up from 2K to 8K

Single/Dual Line Camera

Easy to Attach in Small Sapces

### Product Line-up

Model	Monochrome	FS-B2KU7CLU-C	FS-B2KU7CLU-F	FS-B2KU7CLU-M42	FS-B4KU7CLU-F	FS-B4KU7CLU-M42	FS-B4KU35CLU-C
	Color						
Resolution		2048 × 1	2048 × 1	2048 × 1	4096 × 1	4096 × 1	4096 × 1
Line Rate		80KHz	80KHz	80KHz	80KHz	80KHz	80KHz
Pixel size		7um	7um	7um	7um	7um	3.5um
Sensor		CMOS	CMOS	CMOS	CMOS	CMOS	CMOS
Sensor Type		Shingle	Shingle	Shingle	Shingle	Shingle	Shingle
Mount		C	F	M42	F	M42	C
General Specifications		MDRx2	MDRx2	MDRx2	MDRx2	MDRx2	MDRx2

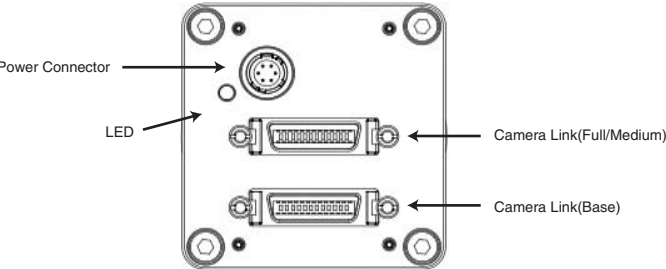
Model	Monochrome	FS-B4KU35CLU-F	FS-B4KU35CLU-M42	FS-B8KU7CLU-M72	FS-B8KU35CLU-F	FS-B8KU35CLU-M42	FS-B16KU35CLU-M72
	Color						
Resolution		4096 × 1	4096 × 1	8192 × 1	8192 × 1	8192 × 1	16384 × 1
Line Rate		80KHz	80KHz	80KHz	80KHz	80KHz	40KHz
Pixel size		3.5um	3.5um	7um	3.5um	3.5um	3.5um
Sensor		CMOS	CMOS	CMOS	CMOS	CMOS	CMOS
Sensor Type		Shingle	Shingle	Shingle	Shingle	Shingle	Shingle
Mount		F	M42	M72	F	M42	M72
General Specifications		MDRx2	MDRx2	MDRx2	MDRx2	MDRx2	MDRx2

Model	Monochrome	FS-B2KU7DCLU-C	FS-B4KU7DCLU-F	FS-B4KU7DCLU-M42	FS-B8KU7DCLU-M72	FS-B2KU7DCLU-F	FS-B2KU7DCLU-M42
	Color	FS-C2KU7DCLU-C				FS-C2KU7DCLU-F	FS-C2KU7DCLU-M42
Resolution		2048 × 2	4096 × 2	4096 × 2	8192 × 2	2048 × 2	2048 × 2
Line Rate		160KHz/80KHz	160KHz	160KHz	160KHz	160KHz/80KHz	160KHz/80KHz
Pixel size		7um	7um	7um	7um	7um	7um
Sensor		CMOS	CMOS	CMOS	CMOS	CMOS	CMOS
Sensor Type		Dual	Dual	Dual	Dual	Dual	Dual
Mount		C	F	M42	M72	F	M42
General Specifications		MDRx2	MDRx2	MDRx2	MDRx2	MDRx2	MDRx2

\*Line Scanning Camera CameraLink Series are scheduled to be released in December.

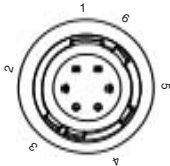
Model	Monochrome	FS-C4KU7DCLU-F	FS-C4KU7DCLU-M42	FS-C8KU7DCLU-M72
	Color			
Resolution		4096 × 2	4096 × 2	8192 × 2
Line Rate		80KHz	80KHz	40KHz
Pixel size		7um	7um	7um
Sensor		CMOS	CMOS	CMOS
Sensor Type		Dual	Dual	Dual
Mount		F	M42	M72
General Specifications		MDRx2	MDRx2	MDRx2

External Connector Specification	
External Connectors	Camera Link Connector:MDR,Power supply:HR10A-7R-6PB(Hirose) or equivalent



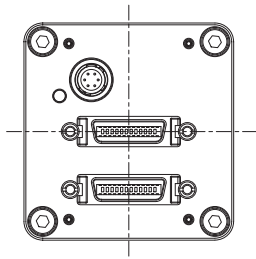
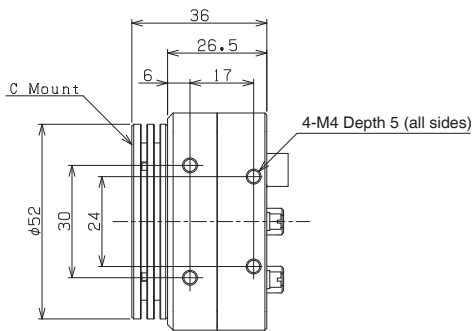
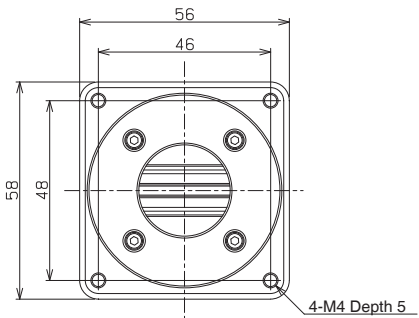
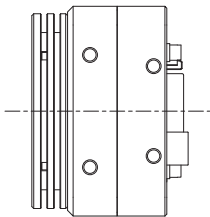
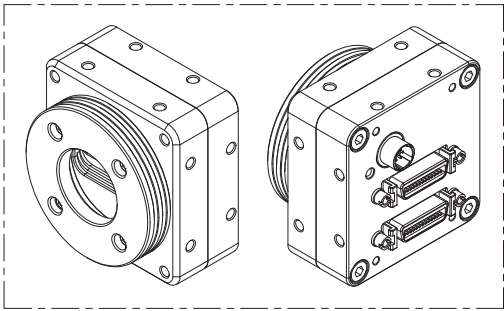
Pin No.	Signal name	IN/OUT	Voltage
1	+12V	IN	+12V
2	+12V	IN	+12V
3	+12V	IN	+12V
4	GND		
5	GND		
6	GND		

\*Please use HR10A-7P-6S or equivalent for the cable  
 \*Differed by models. Please see below specifications.

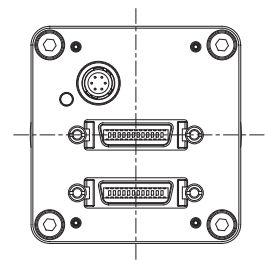
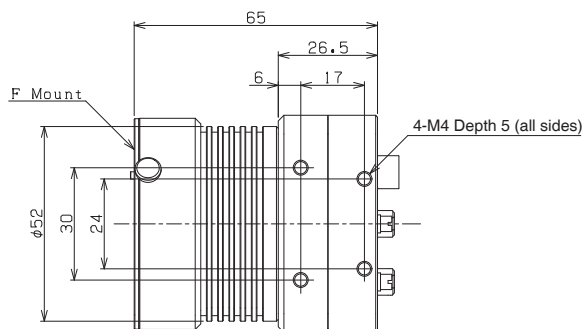
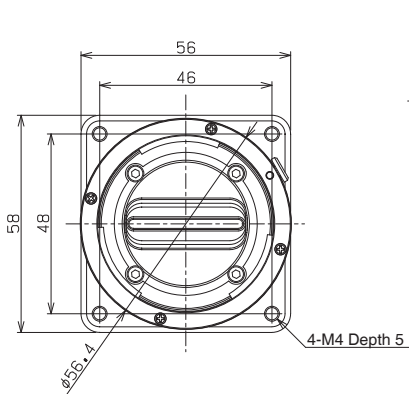
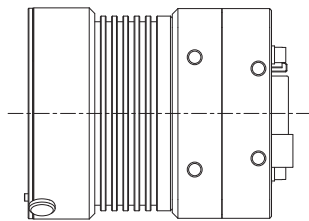
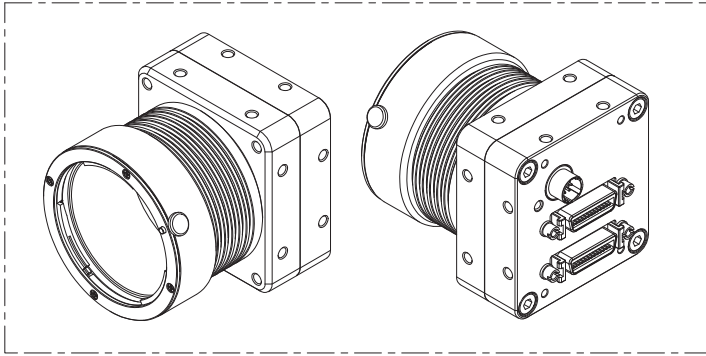


Drawing dimension

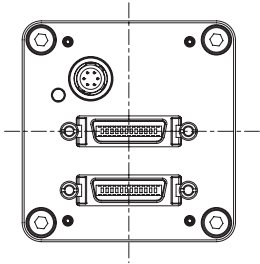
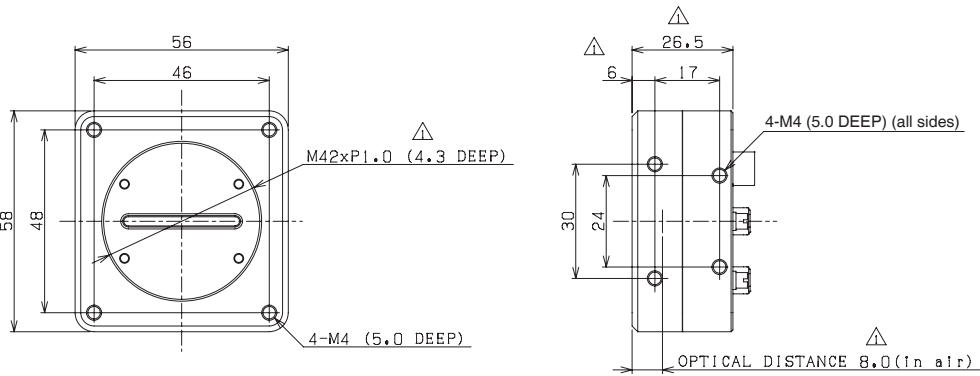
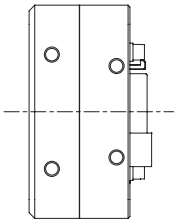
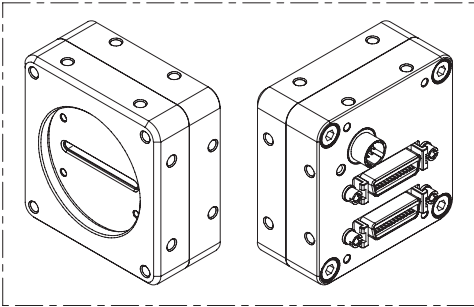
C Mount Type

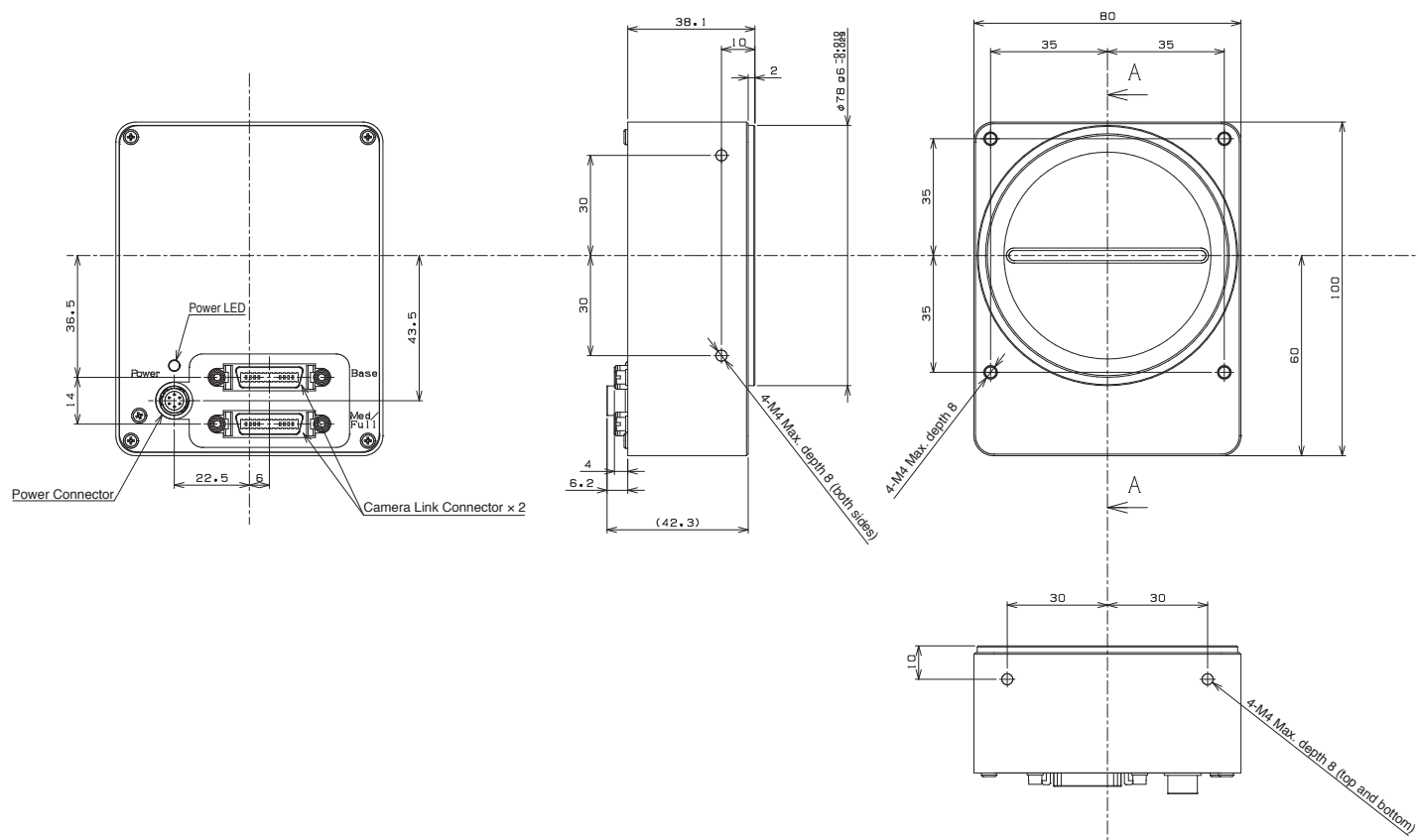


## F Mount Type



M42 Mount Type







Description

Optional items for using cameras  
cables are arranged

Screw-fastened USB3.0 Cable



Model No.	Applicable Model	General Specification
NU3MBASU3S-2m	All USB3.0 Cameras	2m, USB 3.0 MicroB, with camera-side fastening screws
NU3MBASU3S-3.5m	All USB3.0 Cameras	3.5m, USB 3.0 MicroB, with camera-side fastening screws
NU3MBASU3B-2m	All USB3.0 Cameras	2m, USB 3.0 MicroB, with camera-side fastening screws, robot cables
NU3MBASU3B-3.5m	All USB3.0 Cameras	3.5m, USB 3.0 MicroB, with camera-side fastening screws, robot cables

\*Please make sure that USB 3.0 cables operate correctly under your environment beforehand

### Mount Conversion Adapter



Adapter ring necessary when using C-mount lens with CS-mount camera  
Converting adapter from M42 P=1 FB=10mm to F-mount

Model No.	Applicable Model	General Specification
CS-C-R	CS-Mount Model	CS Mount Model
M42-F-R	12M	M42 P=1 FB=10mm →F mount conversion adapter

### Tripod Mount



Optional adapter for fastening the camera with tripod screws

Model No.	Applicable Model	General Specification
TP-JVA	Except for STC-MCE/MBE132U3V, STC-MBA/MCA5MUSB	

\*TP-JVA is scheduled to be released in December.

### Remote Control Unit



The unit is connected to the pin jack on the back of the camera allowing various settings to be made with an on-screen display

Model No.	Applicable Model	General Specification
RC-HD133	All DVI/SDI models	ø3.5 stereo pin jack
RC-S133	S133 Series	

\*RC-HD133, RC-S133 are scheduled to be released in December.

### Communication jig from PC



The jig is connected to the pin jack on the back of the camera allowing various settings to be made using a PC.

Model No.	Applicable Model	Communication Software	General Specification
JIG-USB-HD	All DVI/SDI Model	JTACtrl	ø3.5 stereo pin jack-USB miniB
		HD133Ctrl	

\*JIG-USB-HD is scheduled to be released in December.

## Spectral Characteristics Chart

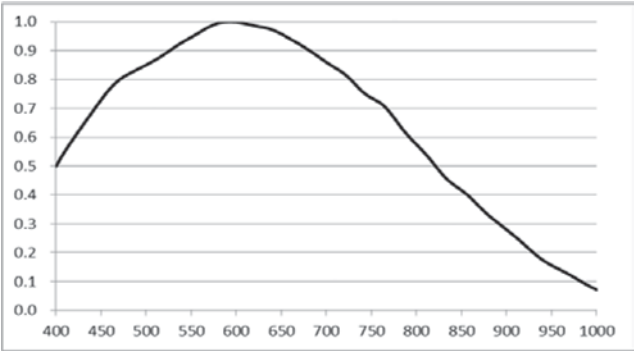
This is the Spectral Characteristics Chart of the image sensor (CMOS) published in this catalog

	Model No.	Type	Page
1	IMX287	Monochrome	38
2	IMX273	Monochrome	38
3	IMX174	Monochrome	39
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5	IMX265	Monochrome	39
6	IMX252	Monochrome	39
7	IMX264	Monochrome	40
8	IMX250	Monochrome	40
9	IMX267	Monochrome	40
10	IMX255	Monochrome	40
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14	CMV2000	Monochrome	42
15	CMV4000	Monochrome	42
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39	CMV2000	Color	42
40	CMV4000	Color	42
41	CMV12000	Color	43
42	MT9P031	Color	44
43	EV76C560ACT	Color	43

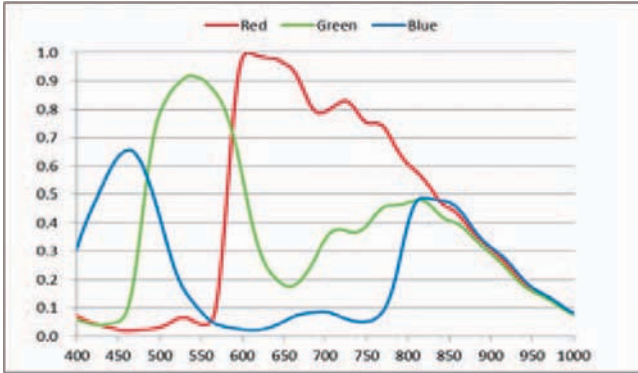
**IMX287**

1/2.9" CMOS 0.4M Monochrome



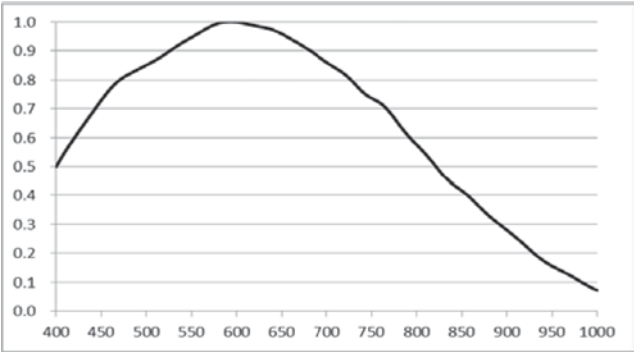
**IMX287**

1/2.9" CMOS 0.4M Color



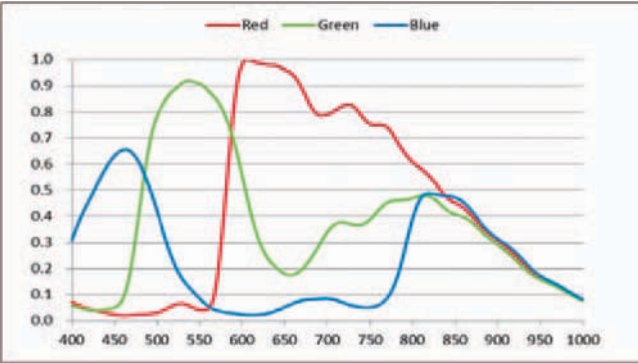
**IMX273**

1/2.9" CMOS 1.6M Monochrome



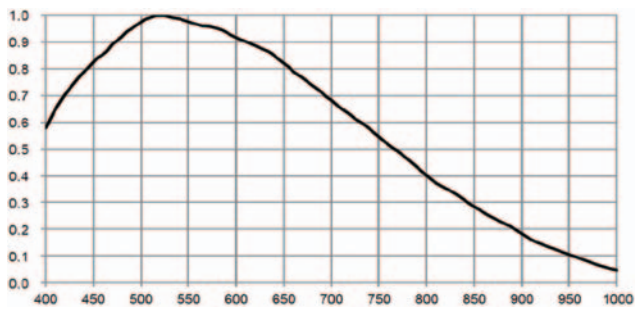
**IMX273**

1/2.9" CMOS 1.6M Color



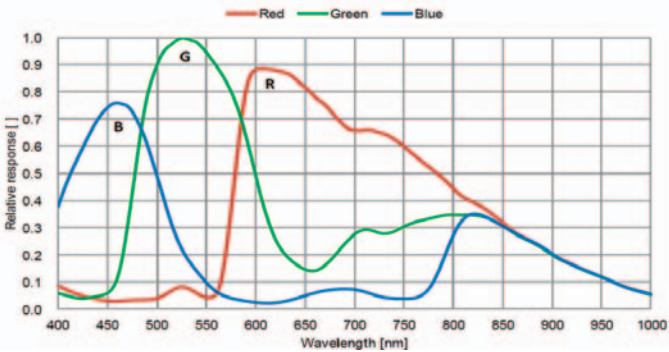
## IMX174, IMX249

1/1.2" CMOS 2.3M Monochrome



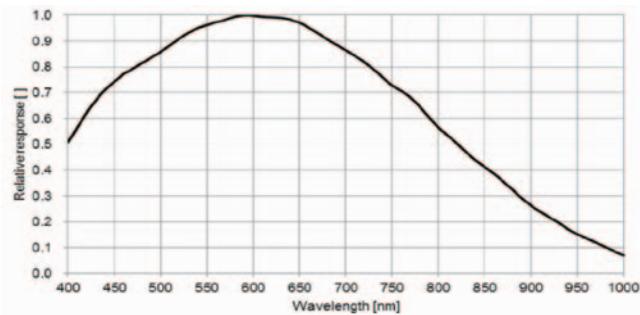
## IMX174, IMX249

1/1.2" CMOS 2.3M Color



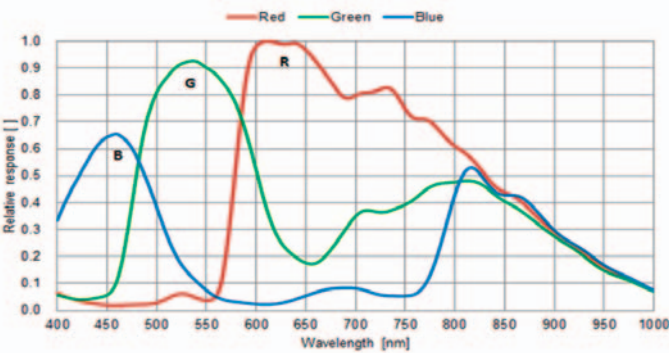
## IMX265, IMX252

1/1.8" CMOS 3.2M Monochrome



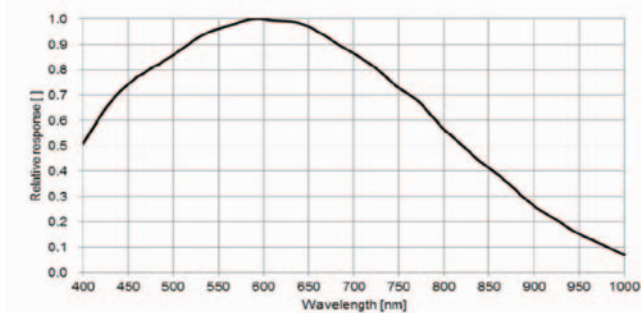
## IMX265, IMX252

1/1.8" CMOS 3.2M Color



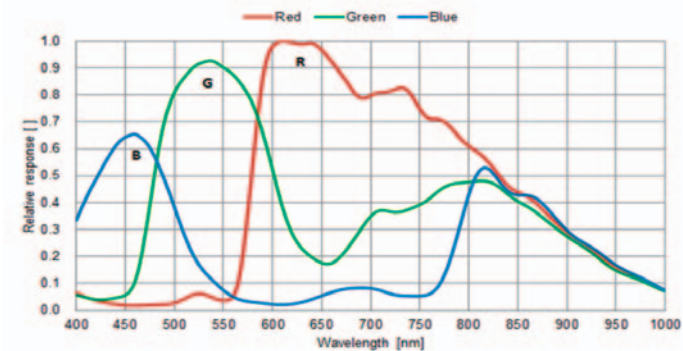
IMX264, IMX250

2/3" CMOS 5M Monochrome



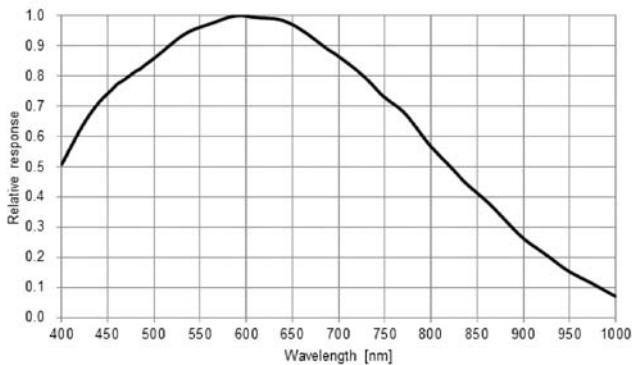
IMX264, IMX250

2/3" CMOS 5M Color



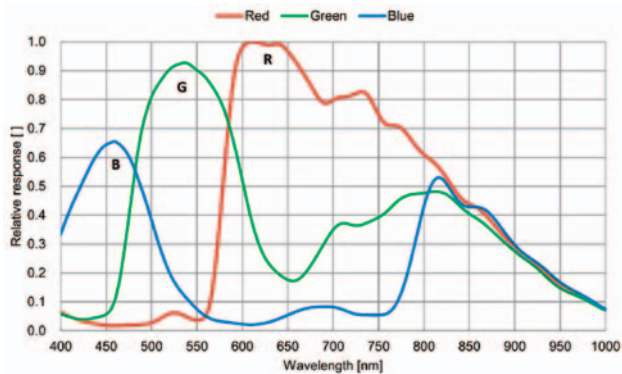
IMX267·IMX255

1" CMOS 8.9M Monochrome



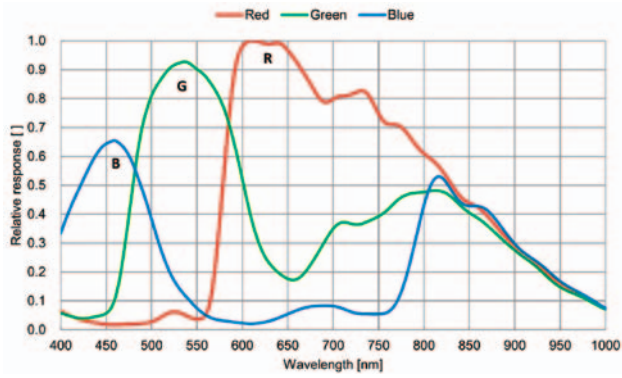
IMX267·IMX255

1" CMOS 8.9M Color



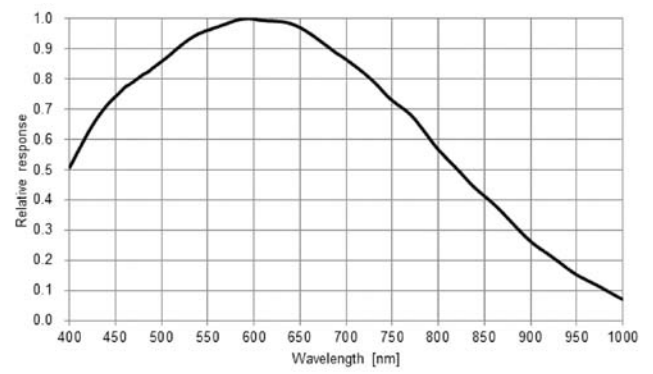
## IMX304·IMX253

1.1" CMOS 12M Monochrome



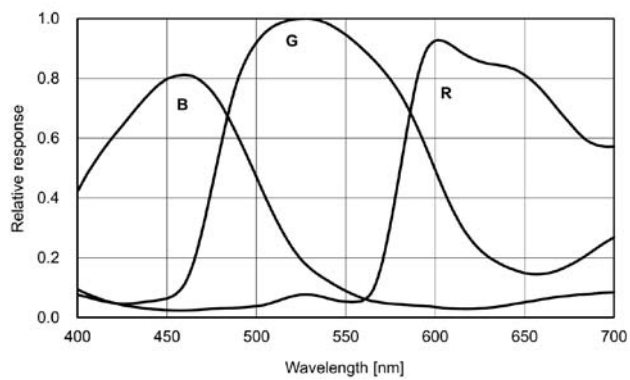
## IMX304·IMX253

1.1" CMOS 12M Color



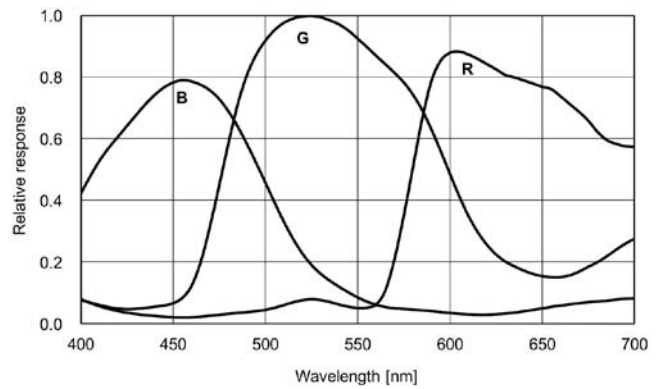
## IMX274

1/2.5" CMOS 8.3M Color



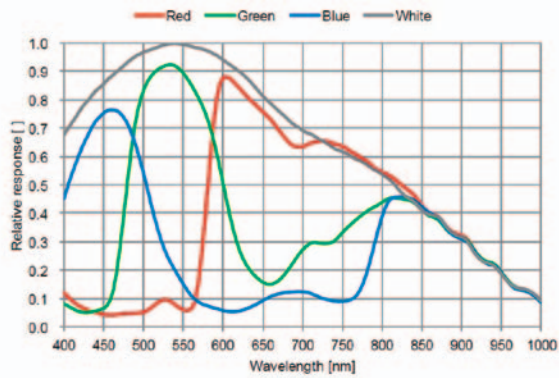
## IMX226

1/1.7" CMOS 12M Color



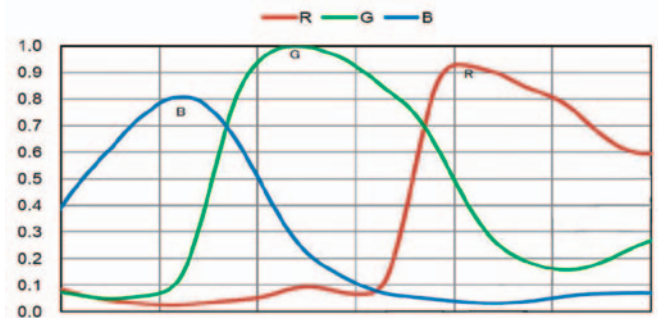
## ISX017

1/3.2" CMOS 0.6M Color



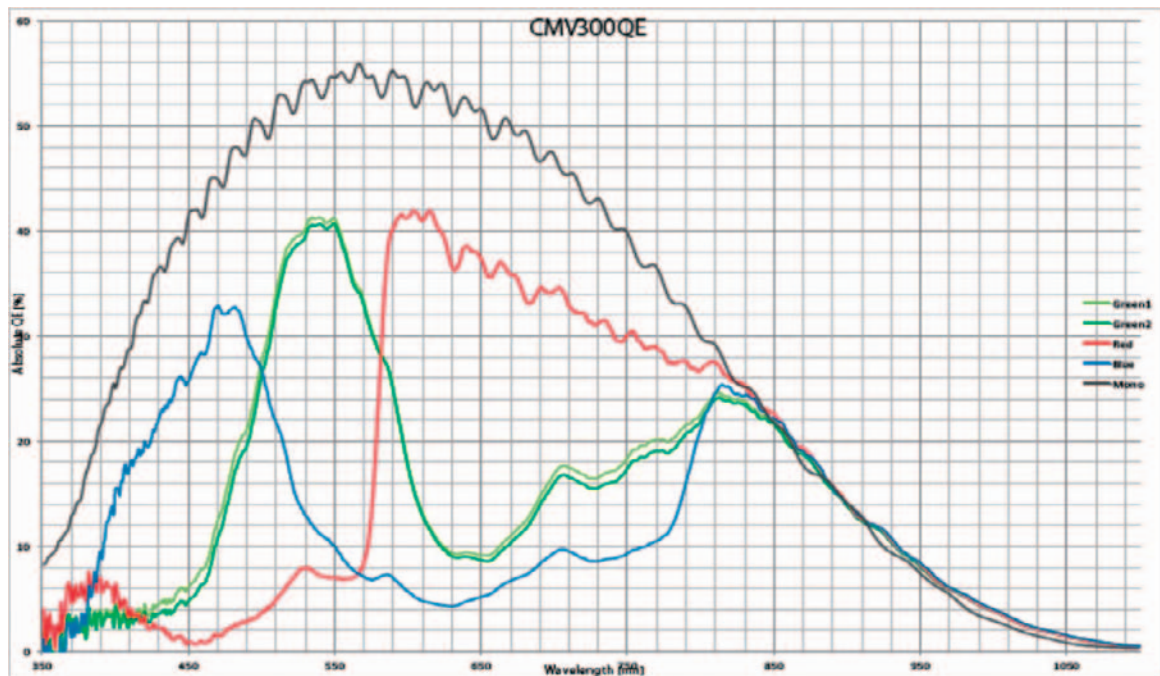
## IMX136

1/2.8" CMOS 1080P FULL High-definition Color



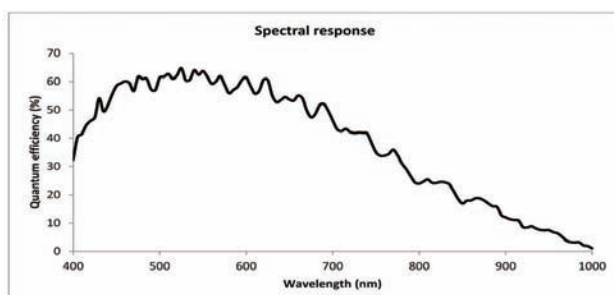
## CMV300

1/3" CMOS VGA Monochrome, Color



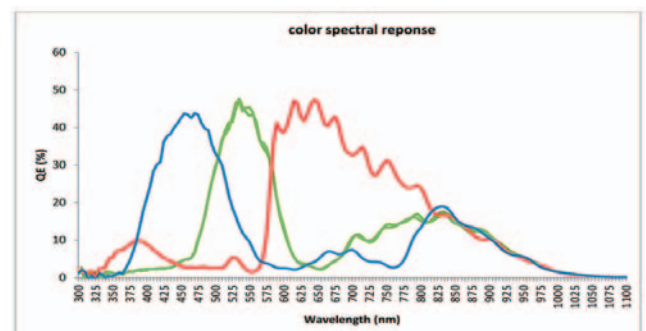
## CMV2000-CMV4000

2/3" CMOS 2M Monochrome · 1" CMOS 4M Monochrome



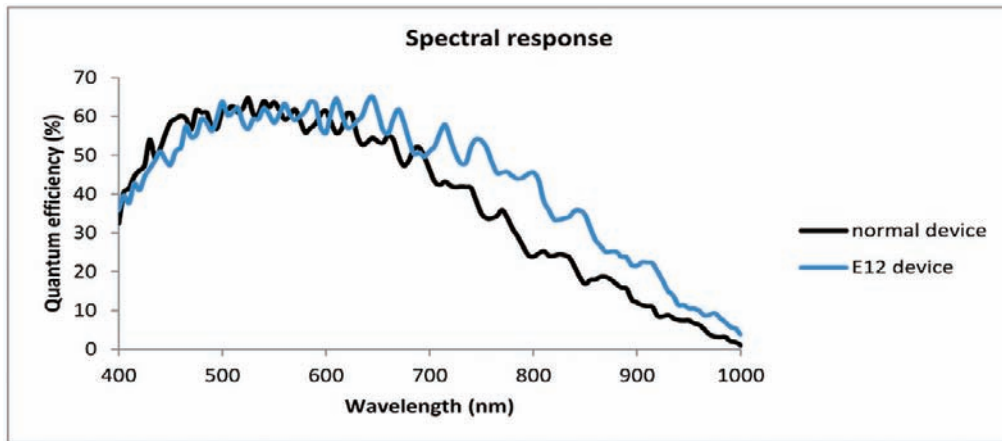
## CMV2000-CMV4000

2/3" CMOS 2M Color · 1" CMOS 4M Color



## CMV2000-CMV4000

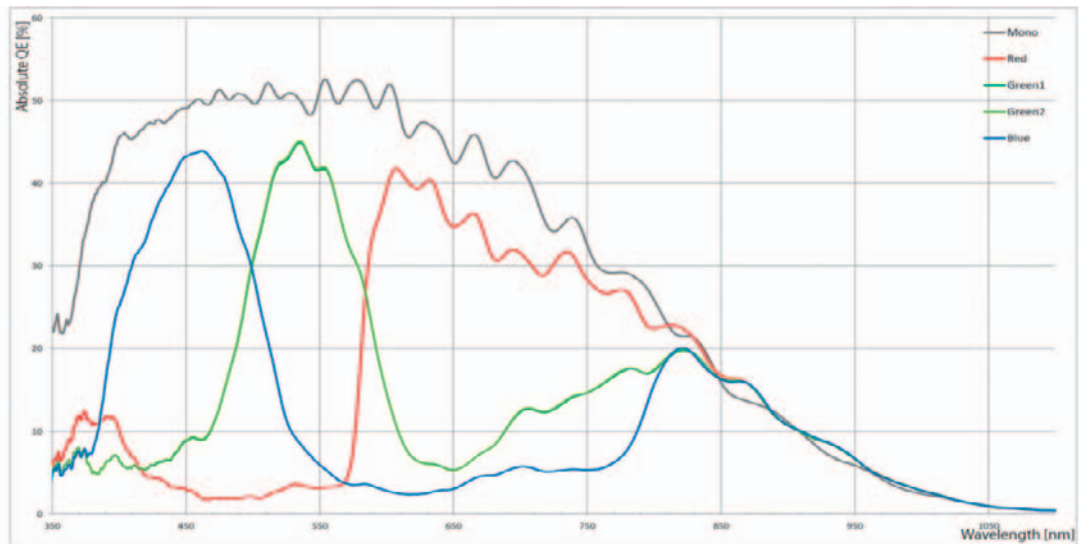
2/3" CMOS 2M NIR-1" CMOS 4M NIR



## CMV12000

## CMV12000

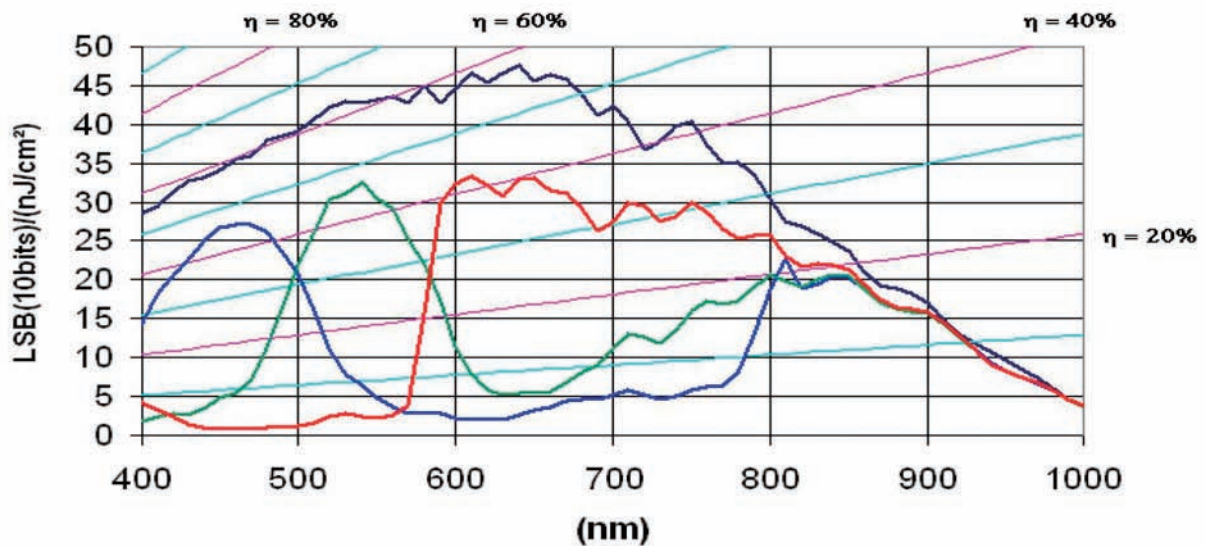
1.76" CMOS 12M Monochrome, Color



## EV76C560ACT

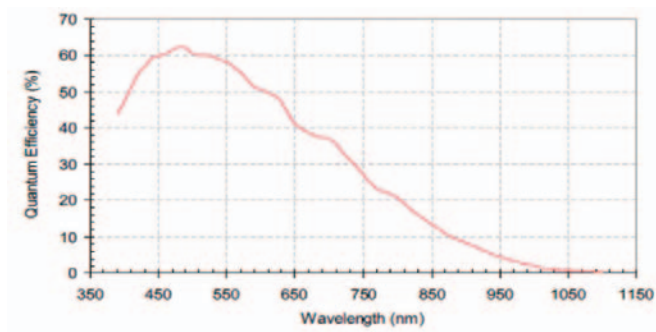
## EV76C560ACT

1/1.8" CMOS 1.3M Monochrome, Color



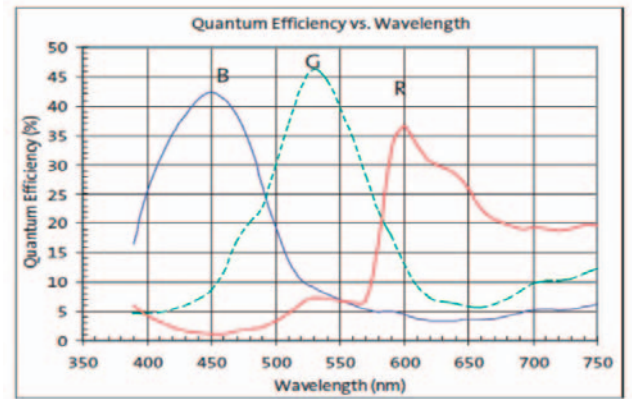
### MT9P031

1/2.5" CMOS 5M Monochrome



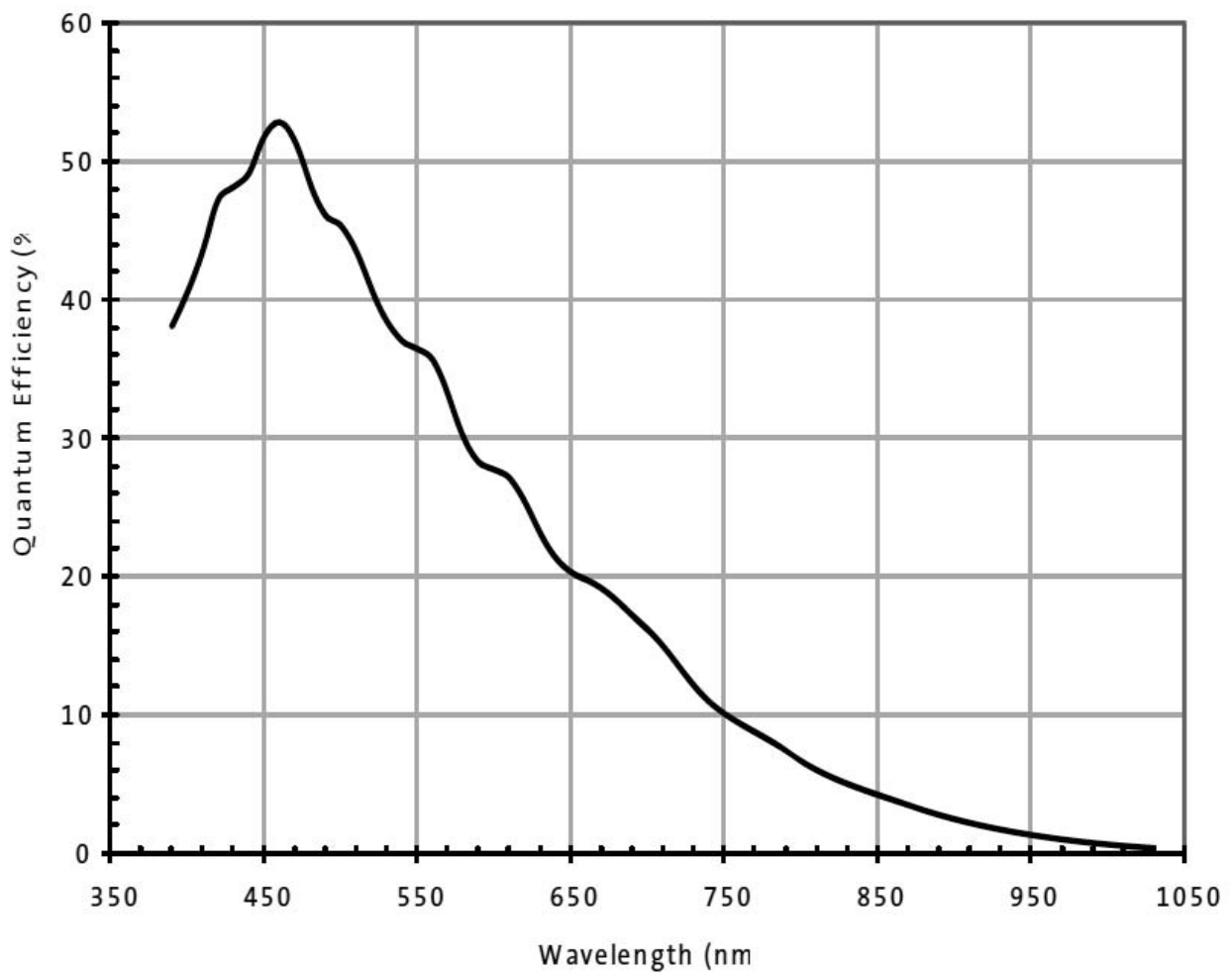
### MT9P031

1/2.5" CMOS 5M Color



### MT9J003

1/2.3" CMOS 10M Monochrome



MEMO

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