

## Product Description

### ASI183MC



Sensor  
IMX183



1"  
13.2\*8.8mm



Resolution  
5496\*3672



ADC  
12bit



QE  
84%



Read Noise  
1.6e



FPS  
19



Full well  
15000e



USB  
3.0

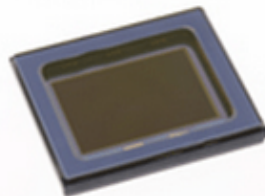


Pixel Size  
2.4µm

**Introducing the ASI183 camera series, the most sensitive cameras in ZWO history. Peak Q.E. of the mono sensor reaches 84%!**

### IMX183CLK-J/CQJ-J

Diagonal 15.86 mm Approx. 20.48M-Effective Pixel Monochrome/Color CMOS Image Sensor



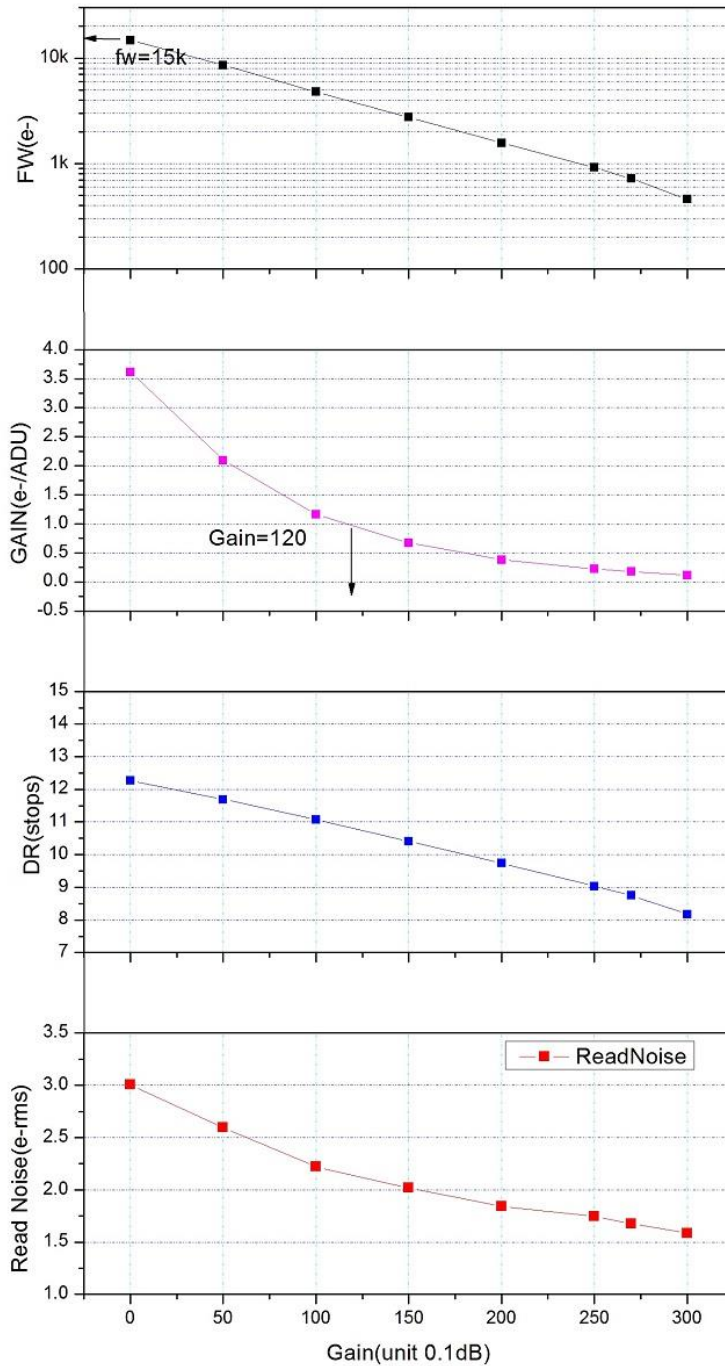
## High-Speed and High-Picture-Quality Rolling Shutter-Type Back-Illuminated CMOS Image Sensors

In the astronomic application field, Sony IMX183CLK-J (monochrome) and IMX183CQJ-J (color) sensors uses a very high sensitivity back-illuminated structure with high resolution 2.4 µm square unit pixel. The optical size is **1 inch**.

## Astrophotography Performance

The ASI183 cameras has a very large full well capacity (**15000e**) for such small pixel size, **1.6e** read noise @ 30DB, and **12stops** dynamic range @ Gain=0. The ASI183 cameras also utilize firmware features to minimize amplifier glow for maximum performance in astrophotography.

Read noise, full well, gain & dynamic range for ASI183



## High Speed

Fast FPS can be used in solar and lunar imaging, as well as for live viewing/EAA. The high-speed readout may also be used for real-time focusing, true lucky imaging of double stars and other small objects, planetary imaging of the major planets in the solar system, and much more.

### 10Bit ADC

5496x3672	19fps
3840x2160	41.04fps
1920x1080	80.10fps
1280x720	117.30fps

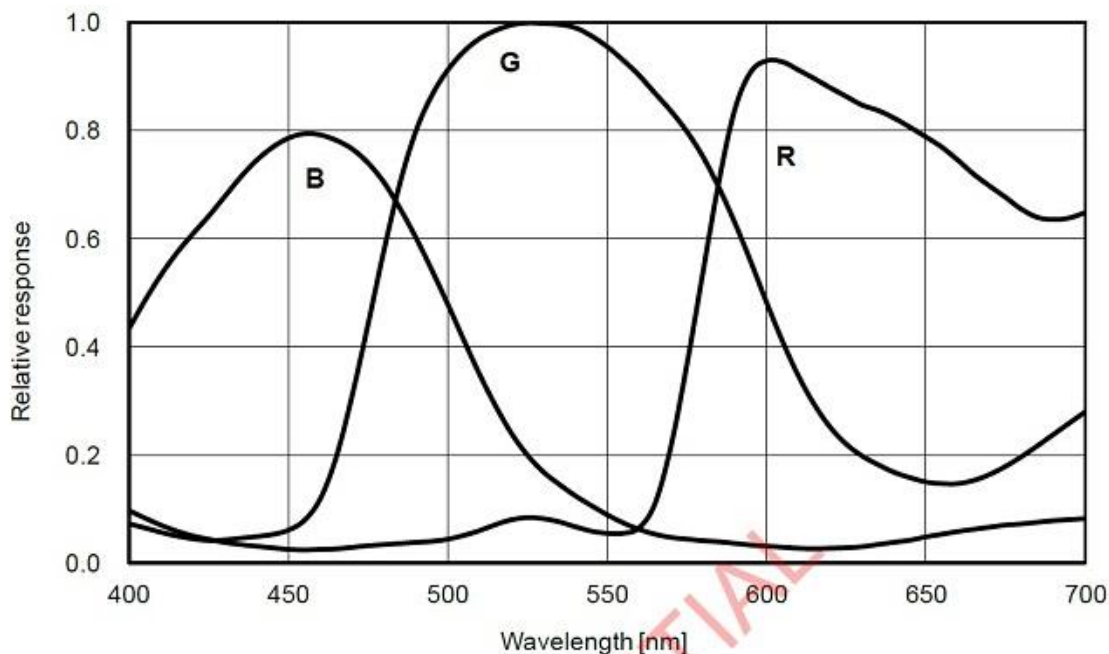
### 12bit ADC

5496x3672	19fps
3840x2160	36.12fps
1920x1080	70.48fps
1280x720	103.23fps

## High QE

Sony's back-illuminated Exmor R technology, giving it excellent Deep Sky performance. ASI183 QE peak reaches a remarkable 84%. In Ha channel, QE is still over 60%.

Having high QE means more of the light that enters your telescope and reaches the sensor is actually used. With 84% peak Q.E. and no less than ~50% within the visible spectrum, the ASI183 will utilize a high percentage of the light that reaches it, improving your signal quality.



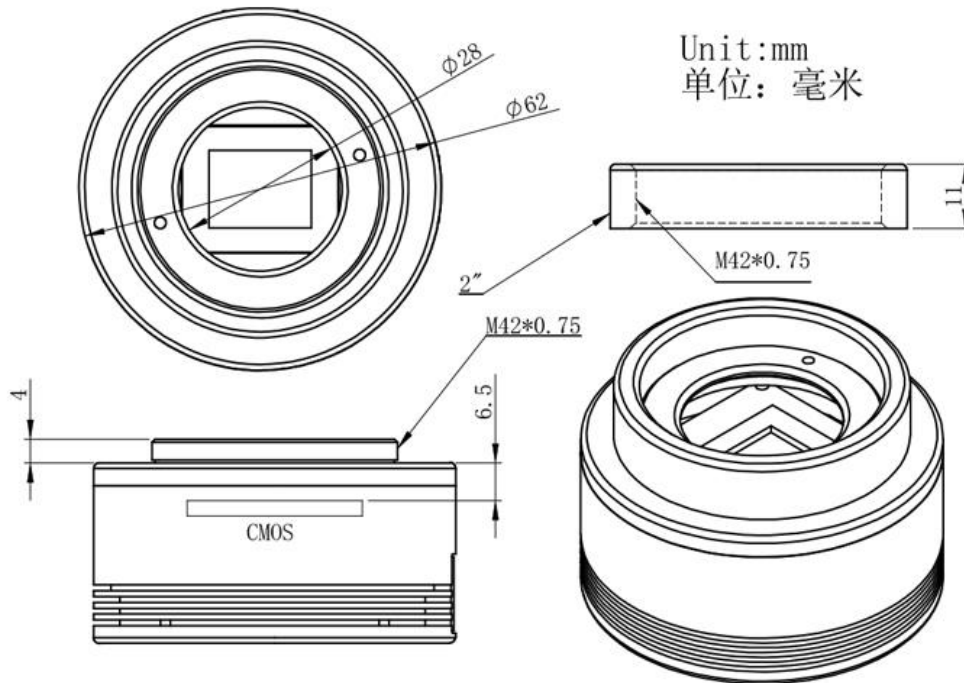
## USB 3.0 Port & ST4 Port

**USB 3.0 Port:** Provide 5Gb bandwidth to make it possible for ASI183 to run at 19 fps (12bit, normal mode) or 19 fps (10bit, high speed mode) at full resolution(20.18Mega).

**ST4 Port:** Can be used connect with auto guide port of mount, for guiding.



### Mechanical Diagram



### What is in the box?

ASI183 box includes all necessary cables, adapters, and manuals.



ST4 cable



camera body



T2-1.25" adapter



quick guide



1.25" cover



2m USB3.0 cable



2" cover



1.25" nose piece

## Drivers and Softwares:

Our website has newest camera drivers and many DSO and Planetary capture software's. Please make sure the newest driver and software has been installed before you start shooting:

<https://astronomy-imaging-camera.com/software/>

## Camera technical details

Sensor: 1" CMOS IMX183CLK-J/CQJ-J  
Diagonal: 15.9mm  
Resolution: 20.18Mega Pixels 5496\*3672  
Pixel Size: 2.4µm  
Bayer Pattern: RGGB  
Shutter: Rolling shutter  
Exposure Range: 32µs-2000s  
ROI: Supported  
ST4 Guider Port: Yes  
Read Noise: 1.6e @30db gain  
QE peak: 84%  
Full well: 15ke  
ADC:12bit  
Interface: USB3.0/USB2.0  
Adaptor: 2" / 1.25" / M42X0.75  
Dimension: φ62mm X 36mm  
Weight: 120g or 4.2 ounces (without lens)  
Working Temperature: -5°C—45°C  
Storage Temperature: -20°C—60°C  
Working Relative Humidity: 20%—80%  
Storage Relative Humidity: 20%—95%  
Max FPS at full resolution:  
10Bit ADC  
5496x3672 19fps  
3840x2160 41.04fps  
1920x1080 80.10fps  
1280x720 117.30fps  
640x480 169.92fps  
320x240 308.17fps  
12bit ADC

5496x3672 19fps  
3840x2160 36.12fps  
1920x1080 70.48fps  
1280x720 103.23fps  
640x480 149.53fps  
320x240 271.19fps

more resolutions are in software, support customize resolution.