

Soft X-ray BSI sCMOS Camera (80-1000eV)



Soft X-ray BSI sCMOS Camera

- ~100% @80-1000 eV Ultra-high Quantum Efficiency
- 1.2 - 5.4" Imaging Area
- 48fps @4MP High Frame Rate
- -50°C Deep Refrigeration

UV-NIR sCMOS Camera (200-1100nm)



High-Speed
sCMOS Camera



High Sensitivity sCMOS
Camera



38M Pixel Large
Format sCMOS
Camera



Compact BSI/FSI
sCMOS Camera

Type	Model	Sensor Type	Resolution	Pixel Size	Frame Rate	Peak QE
High Speed sCMOS Camera	Dhyana 2100	FSI CMOS / Mono	5220(H) x 4096(V)	4.5μm x 4.5μm	450fps@8bit	63% @520nm
	Dhyana 9KTDI	BSI sCMOS TDI/Mono	9072	5μm x 5μm	510kHz@8bit	82% @550nm
Cooled High Sensitivity sCMOS Camera	95V2	BSI sCMOS/Mono	2048(H) x 2048(V)	11μm x 11μm	48fps@12bit STD	95% @560nm
	400BSI V2	BSI sCMOS	2048(H) x 2048(V)	6.5μm x 6.5μm	74fps@CL, 40fps@USB3.0	95% @600nm
	400BSI V3	BSI sCMOS	2048(H) x 2048(V)	6.5μm x 6.5μm	100fps@CL, 40fps@USB3.0	95% @600nm
	400D	FSI sCMOS/Mono	2048(H) x 2040(V)	6.5μm x 6.5μm	35fps@16bit	72% @595nm
	400DC	FSI sCMOS/Color	2048(H) x 2044(V)	6.5μm x 6.5μm	22fps@8bit, 16fps@16bit	
Large Sensor sCMOS cameras	6060BSI	BSI sCMOS/Mono	6144(H) x 6144(V)	10μm x 10μm	26.4fps@12-bit STD	95% @580nm
	4040BSI		4096(H) x 4096(V)	9μm x 9μm	16.5fps@CL, 9.7fps@USB3.0	90% @550nm
	6060FSI	FSI sCMOS/Mono	6144(H) x 6144(V)	10μm x 10μm	44fps@12-bit STD	72% @550nm
	4040FSI		4096(H) x 4096(V)	9μm x 9μm	16.5fps@CL, 9.7fps@USB3.0	74% @600nm
Compact Industry sCMOS Camera	401D	FSI sCMOS/Mono	2048(H) x 2048(V)	6.5μm x 6.5μm	40fps@16bit, 45fps@8bit	72% @595nm
	401A-G		2048(H) x 2048(V)	11μm x 11μm		58% @600nm
	401A-U		2048(H) x 2048(V)	11μm x 11μm		58% @600nm
	201D		2048(H) x 1152(V)	6.5μm x 6.5μm	70fps@16bit, 80fps@8bit	72% @595nm

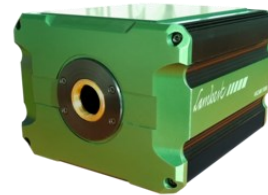
Intensified CMOS Camera (200-1100nm)



Time-Resolved iCMOS
(200-1100nm) Camera



High-speed Fluorescence
iCMOS Camera



High-speed Gated
iCMOS Camera

	Time-Resolved iCMOS	High-speed Gated iCMOS Camera		High-speed Fluorescence iCMOS Camera	
		540M/S	1000M/S	FLUO (1000 FPS)	FLUO (2000 FPS)
Framerate	162 fps	540 fps	1000 fps	1000 fps - 7500 fps	2000 fps - 6400 fps
Sensor Resolution	1920 x 1200 pixels	1696 x 1710 pixels	1280 x 1024 pixels	1280 x 1024 pixels	1920 x 1080 pixels*
Pixel size	5.86 x 5.86 μm	8 x 8 μm	6.6 x 6.6 μm	6.6 x 6.6 μm	10 x 10 μm
Photon gain (max.)	50000 $\text{lm/m}^2/\text{lx}$	11000 $\text{lm/m}^2/\text{lx}$	11000 $\text{lm/m}^2/\text{lx}$	36000 $\text{lm/m}^2/\text{lx}$	36000 $\text{lm/m}^2/\text{lx}$
Gating repetition rate	100 or 300Khz	100khz	100khz	100khz	100khz
Intensifier	18mm intensifier	Dual-stage intensifier	Dual-stage intensifier	Single-stage intensifier	Single-stage intensifier
Bit Depth	10 bit and 12 bit	8 bit	8 and 12 bit	8 and 12 bit	8 bit
Minimum exposure time	40 ns (3 ns optional)	40 ns (3 ns optional)	40 ns (3 ns optional)	40 ns (3 ns optional)	40 ns (3 ns optional)

Imaging Intensifier Tube



Time-Resolved Image
Intensifier



High-speed Image Intensifier

	Time-Resolved Image Intensifier		High-speed Image Intensifier	
	Model 18	Model 25	Model 18	Model 25
Input diameter	18mm	25mm	18mm	25mm
Effective area	Gen II: ϕ 17.5 mm, Gen III: 13.5x10 mm	Gen II: ϕ 24.5 mm, Gen III: 16x16 mm	Gen II: ϕ 17.5 mm, Gen III: 13.5x10 mm	Gen II: ϕ 24.5 mm, Gen III: 16x16 mm
Max. Repetition	100 kHz, 300 kHz or 1 MHz	100 kHz, 300 kHz or 1 MHz	100khz Or 300khz , 2.5 MHz burst mode	100khz Or 300khz, 2.5 MHz burst mode
Min. gate width	< 3ns - 40ns (FWHM)	< 3ns - 40ns (FWHM)	< 3ns - 40ns (FWHM)	< 3ns - 40ns (FWHM)
Frame Rate	Up to 500 fps	Up to 500 fps	up to 1,000,000 fps	up to 1,000,000 fps
Photon Gain	S20 : 14800, S25:30000	S20 : 14800, S25:30000	S20 : 40000, S25:30000	S20 : 40000, S25:30000
	GaAs: 40000, GaAsp: 20000	GaAs: 40000, GaAsp: 20000	GaAs: 30000, GaAsp: 50000	GaAs: 30000, GaAsp: 50000

XUV/VUV CCD Cameras (1-350nm)



maxCAM 1-100 nm

- BSI Camera QE >95%
- TE cooling to 80°C below ambient
- Sensor 1024x256 pixels



easyCAM 50-300 nm

- FSI QE >50% at 150nm
- TE cooling to -80°C below ambient
- Sensor 1024x256 pixels

Full-Frame CCD Camera / Large Format CCD Camera



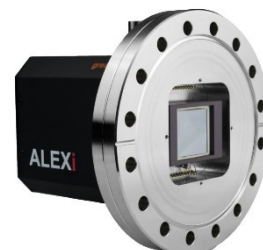
Full Frame CCD Camers
for UV VIS NIR (Imaging)



Full Frame CCD Camers
for UV VIS
NIR(Spectroscopy)



Full Frame CCD Camera
for VUV EUV X-ray
(Spectroscopy)



Full Frame CCD
Camera for VUV EUV
X-ray (for Imaging)



Full Frame In-vacuum
CCD Cameras (for
Spectroscopy)



Full Frame In-vacuum
CCD Cameras (for
Imaging)



Scientific In-vacuum
CCD Cameras



Large Format In-vacuum
CCD Cameras

Microscope CCD Camera (VIS-NIR)



Microscope TE-Cooling CCD
Camera USB3.0



Microscope CCD Camera
USB3.0

Microscope CMOS Camera (UV-NIR)



Large Format TE-Cooling
USB3.0 CMOS Camera



Microscope TE-Cooling
USB3.0 CMOS Camera



TE-Cooling USB3.0
CMOS Camera External
Trigger



Microscope USB3.0
CMOS Camera



Microscope USB3.0
CMOS Camera UV
Enhanced



Microscope USB3.0
CMOS Camera with ISP



Microscope Eyepiece
USB3.0 CMOS Camera

Camera Category	Resolution	Pixel Size	FPS	Wavelength	Note
Large Format TC-Cooling USB3.0 CMOS Camera	24MP and 61MP	5.94um and 3.76um	upto 190FPS	380nm - 650nm	UV extended available
TE-Cooling USB3.0 CMOS Camera	10MP to 45MP	4.63um to 2.31um	upto 96FPS	380nm - 650nm	IR Cut filter
TE-Cooling USB3.0 CMOS Camera with External Trigger	0.5MP / 0.5MP	6.9um / 9um	20FPS	380nm - 650nm	External Trigger
Microscope USB3.0 CMOS Camera	0.5MP to 45MP	6.9um to 1.55um	upto 520FPS	380nm - 650nm	IR Cut filter
Microscope USB3.0 CMOS Camera UV Enhanced	1.3MP to 10MP	9.7um to 4.6um	upto 86FPS	200nm - 1100nm	
Microscope USB3.0 CMOS Camera wish ISP	1.5MP to 45MP	3.4um to 1.2um	upto 165FPS	380nm - 650nm	IR Cut filter / ISP
Eyepiece USB3.0 CMOS Camera	5MP	2um	30FPS	380nm - 650nm	IR Cut filter

UV & NIR Enhanced CMOS Camera



UV Enhanced CMOS Camera

- Pixel size from 11 μm to 2.74 μm
- Resolution 4.2/8MP
- Up to 200FPS
- Wavelength 200-1100nm



NIR Enhanced CMOS Camera

- Pixel size 2.9 μm x 2.9 μm
- Resolution 2.1/4.1MP
- Up to 200FPS
- Wavelength 200-1100nm

HDMI Color CMOS Camera (Monitor)

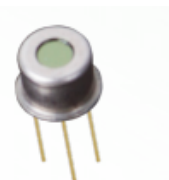


HDMI Color CMOS Camera (Monitor)

- Resolution 2MP to 8MP
- 60FPS
- Wavelength 380-1100nm

Product Model	4K Pro	Auto Focus	Metrics	HD Lite
Sensor	Sony IMX183C CMOS	CMOS	CMOS	CMOS
Sensor Size		1/2.8"	1/2.8"	1/2.5"
Preview Resolution		2MP (1920 x 1080)	2MP (1920 x 1080)	5MP (2592 x 1944)
Capture Resolution	8MP (3840x2160)	6MP, 3264 x 1836	6MP (3264 x 1836)	5MP (2592 x 1944)
Frame Rate	HDMI: 30fps@3840x2160 USB 3.0: 25fps@3840x2160 Ethernet: 30fps 3840x2160	60fps @ HDMI, 35fps @ USB2.0	30fps @ HDMI, 30fps @ USB2.0	15fps @ HDMI, 15 fps @ USB2.0

Pyroelectric Infrared Detectors (2-12μm)



Pyroelectric IR Single Detectors (2-12μm)



Pyroelectric IR Multi-Channel Detectors (2-12μm)



Pyroelectric IR Linear Detector / LVF (2-12μm)

Infrared Pyrometers (-40-3000°C)



Infrared Pyrometers Series 1x



Infrared Pyrometers Series 2x and 3x



Infrared Pyrometers Series 4x



Infrared Pyrometers Series 5x (adjustable focus)



Infrared Pyrometers Series 8x (Handheld)

Series	Temperature Range	Spectral Range	Interface	Aiming and Targeting Aid
Series 1x	0 °C to 3000 °C	0.7 μm to 14 μm	RS-485	LED or Laser-Aiming light adapter, Through-lens sighting, Color video camera
Series 2x and 3x	Series 2x: -20 °C to 700 °C, Series 3x: 600 °C to 1800 °C	Series 2x: 8 μm to 14 μm, Series 3x: 0.8 μm to 1.1 μm	Parameter Interface	Laser-Aiming light adapter
Series 4x	-40 °C to 2500 °C	0.7 μm to 14 μm	USB, RS-485, Ethernet	Laser-Aiming light adapter, LED aiming light
Series 5x	-40 °C to 3000 °C	0.7 μm to 2.6 μm	RS-485	Through-lens sighting, Laser, Video
Series 8x	200 °C to 3000 °C	0.7 μm to 1.8 μm	USB	TFT color display, laser

Infrared Linear Array Camera



Infrared Linear Array Camera (8μm to 14μm)



Infrared Linear Array Camera (4.8μm to 5.2μm)



Infrared Linear Array Camera (3μm to 5μm)



Infrared Linear Array Camera (0.8 μm to 1.1 μm)

Infrared Matrix Array Cameras



Infrared Cameras
PYROVIEW 320L & 320N



Infrared Cameras
PYROVIEW 380L
-20 to 500°C



Infrared Cameras
PYROVIEW 640L
-20 to 500°C



Infrared Cameras
PYROVIEW 640M
200-500°C



Infrared Cameras
PYROVIEW 640G
300-700°C



Infrared Cameras
PYROVIEW 640F
600-1250°C



Infrared Cameras
PYROVIEW 512N
600-3000°C



Infrared Cameras
PYROVIEW 768N
600-3000°C

Camera type	Pixels	Spectral range	Temperature range2
PYROVIEW 320L	320 × 240	8µm to 14µm	-20°C to 500°C
PYROVIEW 320N	320 × 256	1,4µm to 1,6µm	300°C to 1200°C
PYROVIEW 380L	384 × 288	8 µm to 14 µm	-20°C to 120°C, 50°C to 500°C
PYROVIEW 640L	640 × 480	8 µm to 14 µm	-20°C to 120°C, 50°C to 500°C
PYROVIEW 640M	640 × 480	3 µm to 5 µm	200°C to 500°C
PYROVIEW 640G	640 × 480	4.8 µm to 5.2 µm	300°C to 700°C
PYROVIEW 640F	640 × 480	3.9 µm	600°C to 1250°C
PYROVIEW 512N	512 × 384	0.8 µm to 1.1 µm	600°C to 1500°C or 1400°C to 3000°C
PYROVIEW 768N	768 × 576	0.8 µm to 1.1 µm	600°C to 1500°C or 1400°C to 3000°C

Blackbody Calibration Sources -15 to 1500°C



PYROTHERM
CS 120



PROTHERM CS
400/CS 400-M1



PYROTHERM
CS 500



PYROTHERM
CS 1200

Spectral Imaging Camera



Blue Eye
UV (220 - 380 nm)



Green Eye
VIS-NIR (400 - 1000 nm)



Orange Eye
VIS-NIR (580 - 1000 nm)



Red Eye
NIR (950 - 1700 nm)



Black Eye
MIR (2900 - 4200 nm)

Hyperspectral Camera SnapShot (350nm – 1μm)



Ultris X20 Standard

- 380 to 1000nm
- 410*410 pixel



Ultris x20 PLUS High Resolution

- 350nm – 1000nm
- 1880 * 1880 pixel



ULTRIS 5 Palm size

- 450 to 850nm
- 250*250 pixel



ULTRIS 5 HFR

- 450 to 850nm (Modifiable)
- 250*250 pixel

Multi-Spectral Camera (400-1000nm)



SnapShot
Multi-Spectral Camera



Multi-Spectral
Drone cameras



Multi-Spectral
Imaging Systems



Multi-Spectral Camera
for Microscope

Types	Number of Band	Wavelength Choice(nm)	Band Width	Sensor format	Image Resolution	Accessories
Multi-Spectral Camera	<8	474, 495, 526, 546, 578, 602, 621, 640 720, 760, 800, 840, 860, 900, 940, 980nm Customized Wavelength availabl	20 to 120nm	1-inch	<512*512	N.A
Multi-Spectral Drone Cameras	<8		20 to 70nm	1-inch	<512*512	Drone Adatpor
Multi-Spectral Imaging Systems	<8		20 to 70nm	1-inch	<2048 x 512	8 Channel LED
Multi-Spectral Camera for Microscope	<4		20 to 70nm	1-inch	<5472 x 3648	Microscope

Short-Wave Infrared Camera (SWIR)



SWIR Camera

- High resolution up to 1.3MP
- Visible and SWIR imaging 400 – 1700nm
- Built-in Thermoelectric Cooler
- InGaAs SWIR USB3.0 Camera

Mid-Wave Infrared Camera (MWIR)



Cooled Mid-Wave Infrared Detectors



Cooled MIR & LWIR Infrared Detectors



Cooled Mid-Wave Infrared Camera

	Product	Spectral Range	Resolution	Cooling
MIR Camera	Mid Infrared Detector	3.7um to 4.8um	0.08MP, 0.3MP, 1.5MP	Cooled
	Mid Infrared Camera	3.7um to 4.8um	0.08MP, 0.3MP, 1.5MP	Cooled
	Dual Band Detector	3.7 to 4.8um 7.7 to 9.5um	320*256px	Cooled

Long-Wave Infrared Camera (LWIR)



Cooled Long-Wave Infrared Camera



Cooled Long-Wave Infrared Detectors



Thermography Camera for Skin Temperature Screening



Uncooled LWIR Thermography Camera



LWIR Thermal Imaging Cameras for Smartphones



LWIR Thermal Imaging Cameras for Smartphones

	Product	Spectral Range	Resolution	Cooling	Feature
LWIR Camera	Cooled LWIR Detector	7.7um to 9.4um	0.08MP, 0.3MP	Cooled	
	Cooled LWIR Camera	7.7um to 9.4um	0.3MP	Cooled	
	LWIR Thermography Camera	8 to 14um	0.08MP, 0.3MP, 1.5MP	Uncooled	Broad Temperature Range
	Thermography Camera for Skin Screening	8 to 14um	320*256px	Uncooled	Body Temperature
	Thermal Imaging Cameras for Phone	8 to 14um	256*192px	Uncooled	For Smart Phone
	Compact Thermal Imaging Camera	8 to 14um	0.08MP, 0.3MP	Uncooled	For CCTV , Drone

High Speed Line Scan Camera



Single Line Scan Camera



4K Multi-line Scan Camera



8K Multi-line Scan Camera



16K Multi-line Scan Camera



256 Multi-line Scan Camera

Large Format Camera



Industry High Resolution Cooled Camera



Industry High Resolution Camera



Standard Industry Camera

Frame Grabber



Frame Grabber with Camera Link Interface



Frame Grabber with CoaXPress Interface