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X-ray sCMOS 4MP Detector



High resolution X-ray imaging

The detector offers up to 67mm x 67mm active area and 4 megapixel resolution. A custom scintillator is deposited onto the camera in order to allow 1keV up to 55keV operation.

Array versions with multiple modules are also available, delivering up to 16 megapixel resolution. The X-ray sCMOS detector delivers up to 18 fps full resolution and allowing real time acquisition routine.

A built in shutter allows smear free, shutterless acquisition even with exposure time down to millisecond range. Frame rate of >30 fps can be achieved when used in local sub area mode or line scan mode.

A device server driver control allows remote aquisition through existing GUI interface. The detectors have a native 16-bit acquisition mode.

Key Features

- Input sizes : single module
  22.5 x 22.5 up to 67 x 67mm
- Direct detection version
  22.5 x 22.5mm
- Scintillator
  Gadox:Tb for operation from 1-55 keV,
  structured CsI scintillator from 20-300 keV
- Simultaneous integration / readout enabling 100% duty cycle acquisition
- OEM versions available

Applications

X-ray microtomography

X-ray PCB testing

Phase contrast imaging

X-ray source qualification

X-ray radiography

X-ray coherent diffraction imaging

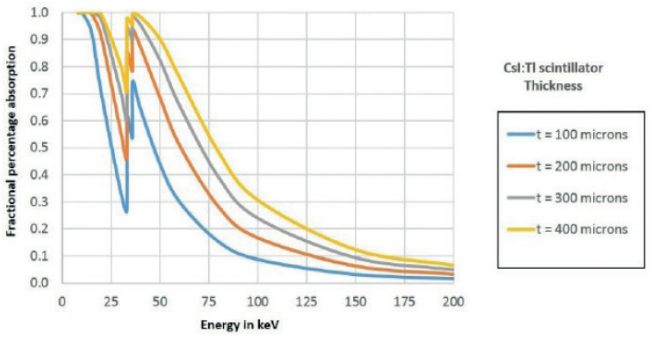
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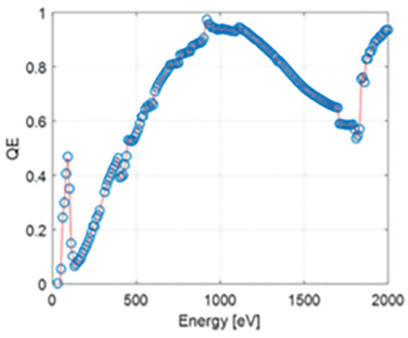
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X-ray sCMOS 4MP Detector

Characteristics	sCMOS 4MP_32	sCMOS 4MP_68	sCMOS 4MP_95
Resolution	2048 x 2048		
Input Size (mm)	22.5 x 22.5	48 x 48	67.2 x 67.2
Input Size (µm)	11 x 11	23.4 x 23.4	32.8 x 32.8
Frame Rate	18 fps at full resolution		
Full Well Capacity	80,000 electrons		
Read Out Noise	1.8 electrons rms		
Dark Current	<1 electron/pixel/second		
Sensor Temperature (°C)	Operating at -20°C with water cooling		
Digitization	16-bit		
Peak QE	58% at scintillator emission wavelength (without microlens)		
Exposure	50 microseconds up to 1 minute		
Spatial Resolution	sCMOS_4MP_32 with Gadox:Tb(25lp/mm), sCMOS_4MP_68 with CsI(20lp/mm), sCMOS_4MP_95 with CsI(15lp/mm)		
Detector Interface	Gigabit Ethernet / Genicam compliant		
Energy Range	1keV-55keV with Gadox:Tb/20keV-300keV with CsI		



X-ray absorption efficiency CsI:Tl



Quantum efficiency for direct detection version

Please Note: All specifications in this document are typical and subject to change without notice.

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Product selection, configuration & integration support

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