

X-ray FDS Detector



High resolution X-ray imaging

The detector offers 8.8mm x 6.7mm up to 20mm x 14mm active area and 6 megapixel resolution. A custom scintillator is deposited onto the camera in order to allow 1keV up to 300keV.

The X-ray FDS 6.02MP delivers up to 1.5 fps full resolution or 6 fps in binning 2 x 2 allowing real time acquisition routine.

A built in shutter allows smear free, shutterless acquisition even with exposure time down to microsecond range. Frame rate of >10 fps can be achieved when used in local sub area mode or line scan mode.

A device server driver control allows remote acquisition through existing GUI interface.

The detectors have a native 14-bit acquisition mode and 18-bit extended dynamic range mode.

Key Features

- | Input sizes : single module
8.8 x 6.7mm up to 20 x 14mm
- | 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

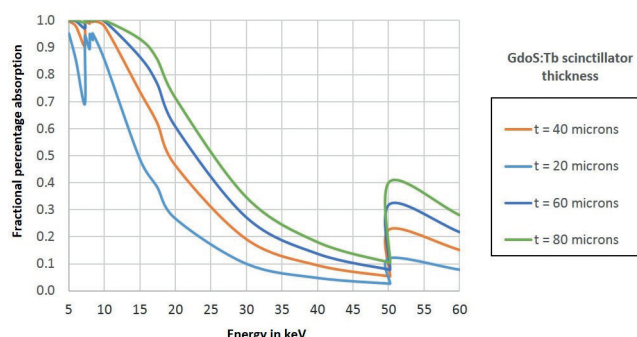
Applications

X-ray microtomography
X-ray PCB testing
Phase contrast imaging

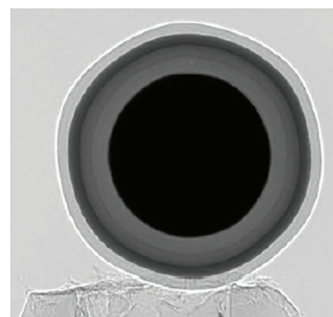
X-ray source qualification
X-ray radiography
X-ray mirror and optics alignment

X-ray FDS Detector

Characteristics	FDS 1.41MP	FDS 2.8MP	FDS 6.02MP
Resolution	1360 x 1040	1940 x 1460	2750 x 2200
Input Size (mm)	8.8 x 6.7 14.35 x 10.73 19.93 x 15.23	8.8 x 6.6	12.50 x 10.00
Input Size (μm)	6.45 x 6.45 10.32 x 10.32 14.65 x 14.65	4.54 x 4.54	
Preview Mode Bin 2x2 at 25MHz	>25 fps	>14 fps	>6 fps
Frame Rate	7.5 fps	3.7 fps	1.6 fps
Full Well Capacity	22,000 electrons	13,000 electrons	
Read Out Noise (Interpolated Noise Reduction)	6 - 7 electrons (3 - 4 electrons)	5 - 6 electrons (3 - 4 electrons)	
Dark Current	0.06 electron/pixel/second	0.0018 electron/pixel/second	
Sensor Temperature (°C)	Operating at -20°C		
Digitization	14-bit		
Peak QE	62%	77%	
Exposure	5 microseconds up to 35 minutes		
Extended Dynamic Range	18-bit digitization		
Extended Full Well Capacity	352,000 electrons	208,000 electrons	



X-ray absorption efficiency GdOS:Tb



Graphite pellet 1μm resolution

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