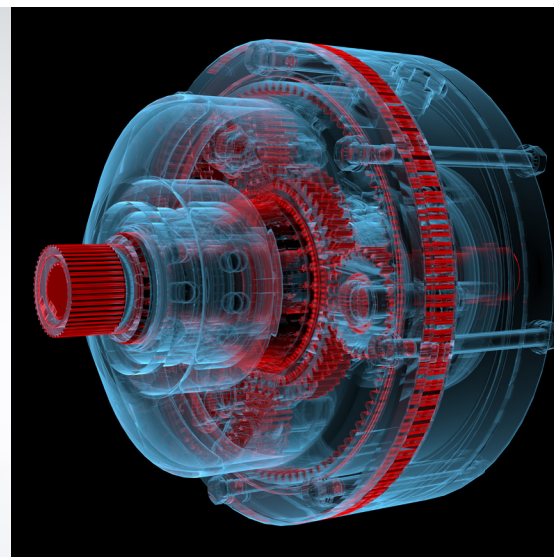
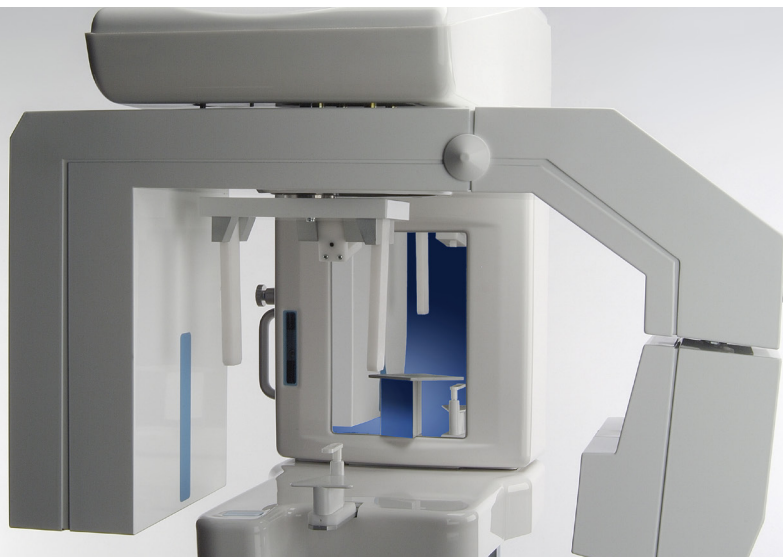


CMOS image sensor

PS SERIES 50 μ m PIXEL



Based around ISDI's patented pixel technology, the PS series is designed to match a wide range of industrial and clinical requirements for flat panel x-ray detectors. Four sizes are available, 28 x 24cm, 14 x 12cm, 12 x 6cm and 6 x 5.4cm. The 50 μ m pixel size is optimised for dental, NDT, micro CT and scientific applications where a combination of large area, high resolution and video frame rate is required. ISDI's unique radiation-hard pixel architecture ensures an extended working life in higher-energy X-ray applications.

Per-column ADCs and multiple serial data channels enable fast frame rates for real time applications. Two gain modes allow the sensor to be optimised for either high sensitivity for fast frame rates, or high dynamic range for static imaging. Region of interest (ROI) and non-destructive readout (NDR) modes are programmable on the fly, for advanced imaging applications such as HDR and adaptive exposure control.

Key features

Specifications

	PS-0606	PS-1206	PS-1412	PS-2824
Radiation-hard pixel design				
Active area (cm)	6.0 x 5.35	6.0 x 11.96	14.1 x 12.0	28.3 x 24.1
Frame rate up to 51fps				
Resolution (h x v)	1200 x 1071	1200 x 2391	2400 x 2802	4802 x 5606
14-bit or 16-bit digital output				
Frame rate max (fps)	51	51	29	29
Programmable region of interest (ROI) for higher frame rates.				
Tile butting	3-side	3-side	3-side	-
Digital outputs (LVDS)	8	16	18	72
Dual gain (full well), run time selectable				
Power (Watts)	0.8	1.6	1.8	7.2

Specifications

PS SERIES - 50µm PIXEL



Pixel pitch	50µm
On chip ADC	14 bits
Gain modes	Dual gain: high or low full well
Row period in ROI mode	14.4 µs/row
Minimum ROI size	1 rows
Readout architecture	Rolling shutter
Non-destructive readout mode	Yes
Temperature sensor on-chip	Yes
QE*FF @ 550 nm	51%
Operating temperature	0 – 60°C
RoHS	Yes
Connector Type	Samtec QTH-090
Photo response non-uniformity	< 1%
Package	Silicon wire-bonded to PCB, metal/ceramic substrate
Saturation in linear range HFW	2.0 Me-
Saturation in linear range LFW	260 ke-
Dynamic range HFW	73.6 dB
Dynamic range LFW	69.9 dB