CMOS wafer scale image sensors

STANDARD PRODUCTS

ISDI is an innovator in the field of high performance CMOS image sensors, offering custom sensor designs as well as standard products.

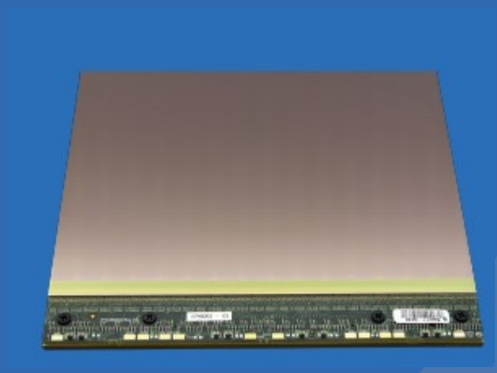
The product range covers one-off designs to high volume manufacturing.

ISDI was formed in 2010 by a group of semiconductor designers with deep knowledge and experience in CMOS image sensors, gained through projects in the scientific and research sectors. Since inception, ISDI has evolved from a designer of scientific sensors to a manufacturer of wafer scale imaging devices for a wide range of applications.

Sensors are delivered in a format suitable for board-to-board or board-to-cable connection to a data acquisition PCB. Digital interfaces are designed for direct connection to an FPGA or ASIC.

For 50µm and 100µm sensors, development boards are available with Camera Link, USB or GigEVision connection, for quick evaluation of sensor performance. These are also available as reference designs for rapid prototyping of imaging system hardware.

All sensors are designed for low noise operation in an X-ray environment and are suitable for fibre optic plate (FOP) bonding or direct scintillator deposition.



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CMOS image sensors: product range

A versatile, feature-rich range of image sensors incorporating ISDI's patented radiation-hard low noise pixel architecture.

Common features:

- Rolling shutter exposure
- Switchable high and low full well for high/low sensitivity
- On-chip temperature sensor
- Dynamically re-programmable region of interest (ROI)

	Active area (h x v) cm	Resolution (h x v)	Frame rate max (fps)	Tile butting	Data outputs	Package size (cm)	On-chip ADCs	Row time (ROI) µs	Low full well	High full well	Dynamic range	
											LFW	HFW
100µm pixel sensors												
TY-2222	21.7 x 22.0	2173 x 2201	112	-	68 x LVDS	27.0 x 21.8	16/14 bit	8.2	360 ke-	3.2 Me-	72.7dB	81.0dB
TY-1511	14.5 x 11.0	1451 x 1100	112	3 side	22 x LVDS	14.5 x 13.5						
TY-1412	14.0 x 12.0	1401 x 1200	116	3-side	18 x LVDS	14.0 x 14.4						
TY-1107	7.2 x 11.1	721 x 1110	112	3-side	12 x LVDS	7.2 x 13.5						
HP-1615	16.1 x 15.0	1610 x 1500	92	3 side	24 x LVDS	16.1 x 17.6	14 bit	7.1	365 ke-	3.0 Me-	70.2dB	73.6dB
HP-2301	23.3 x 0.76	2331 x 76	480	-	44 x LVDS	23.5 x 6.1						
HP-1501	14.8 x 0.76	1484 x 76	480	-	28 x LVDS	15.0 x 6.1						
IS-3131	30.9 x 30.7	3095 x 3073	66	-	300 x CMOS	31.2 x 35.5	14 bit	9.8	410 ke-	2.6 Me-	72.0dB	74.0dB
IS-2121	20.6 x 20.5	2063 x 2049	66	-	200 x CMOS	20.6 x 25.3						
IS-1510	10.3 x 15.3	1031 x 1536	66	3 side	50 x CMOS	10.3 x 17.7						
IS-0510	10.3 x 5.1	1031 x 512	198	3 side	50 x CMOS	10.3 x 7.4						
75µm pixel sensors												
IS-1512	11.5 x 14.8	1537 x 1984	30 (86 @ 2*2 binning)	3 side	6 x analogue	11.5 x 16.3	none	17	290 ke-	2.8 Me-	70.5dB	74.4dB
IS-1207	11.5 x 6.5	1537 x 864	68 (192 @ 2*2 binning)	3 side	6 x analogue	11.5 x 7.9	none	17				
50µm pixel sensors												
PS-2824	28.0 x 24.0	5606 x 4802	29	-	72 x LVDS	28.1 x 28.8	14 bit	14.2	260 ke-	2.0 Me-	69.9dB	73.6dB
PS-1412	14.0 x 12.0	2802 x 2400	29	3 side	18 x LVDS	14.1 x 14.4	14 bit	14.2				
PS-1206	11.96 x 6.0	2391 x 1200	59	3 side	16 x LVDS	12.0 x 8.4	14 bit	14.2				
PS-0606	5.4 x 6.0	1071 x 1200	59	3 side	8 x LVDS	5.35 x 8.4	14 bit	14.2				
IS-1313	13.0 x 13.0	2600 x 2600	16 (30 @ 2*1 binning)	3 side	7 x analogue	13.1 x 15.5	none	24	150 ke-	2.0 Me-	64.4dB	75.1dB

All of the above sensors are available in custom formats.

Contact ISDI for details. info@isdicmos.com

All specifications are subject to change through our continuous improvement programme.