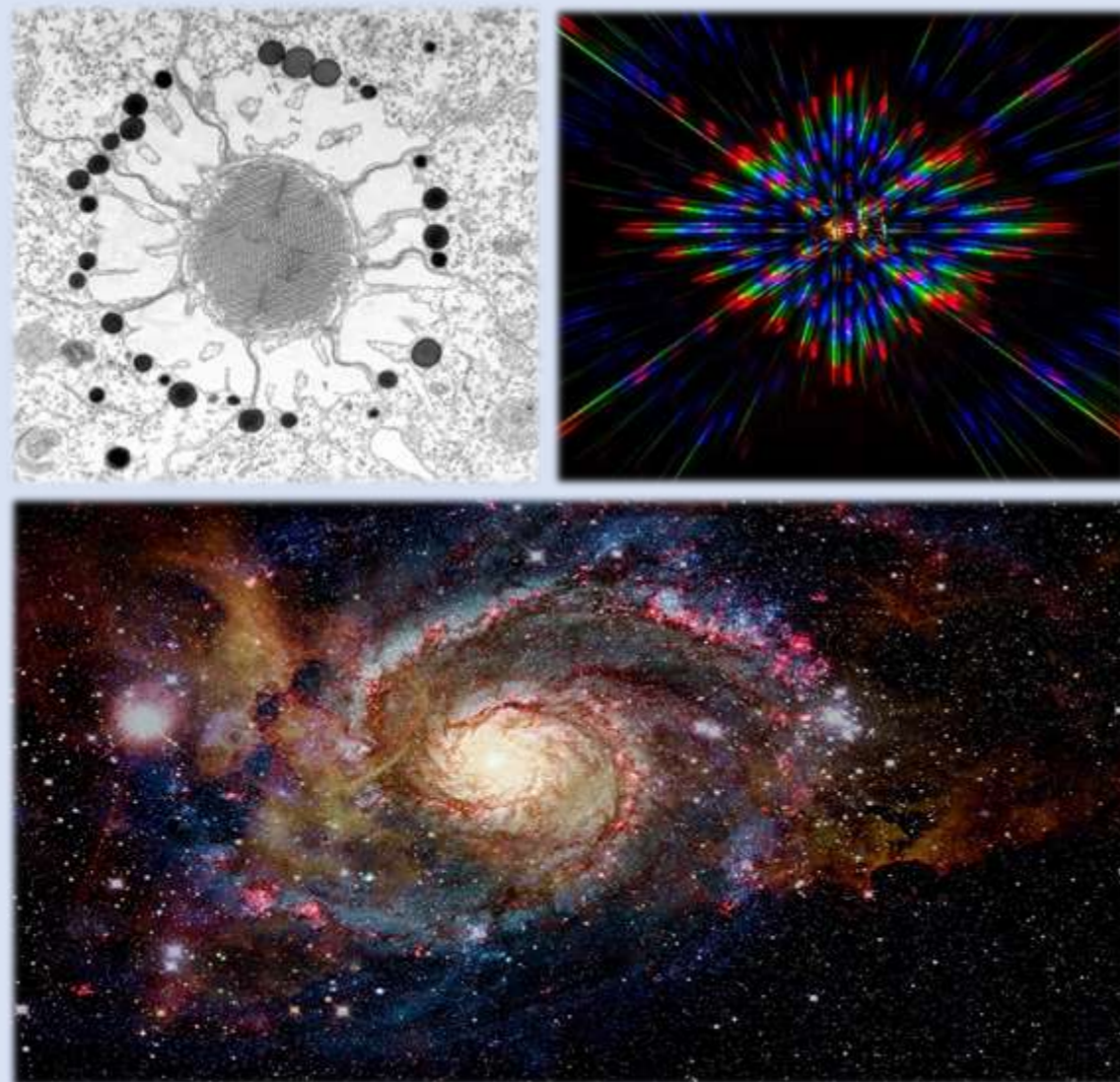


CMOS Image Sensors

Standard products



ISDI is an innovator in the field of high performance CMOS imaging semiconductors, 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 50 μ m and 100 μ m 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 Sensor Product Range

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

Sensors may be butted to create a larger contiguous image area.

Common features:

- Rolling shutter exposure
- Switchable high and low full well (HFW, LFW) for high and low sensitivity applications
- On chip temperature sensor
- Dynamically re-programmable region of interest (ROI)
- Non-destructive readout option



	Active area (V x H cm)	Pixels V	Pixels H	Frame rate max (fps)	Output type*	Features**	Full well (e-)	Readout noise (e-)	Dynamic range	Packaged size (cm)	Butting	Status
50 µm pixel sensors												
IS-1313-50	13.0 x 13.0	2600	2600	15 (1 x 1 bin) 30 (2 x 2 bin)	7 x analogue differential	2FW, BIN	LFW = 150k HFW = 2.0M	LFW = 90 HFW = 350	LFW = 64.4 dB HFW = 75.1 dB	15.4 x 12.9	3 side	Production
AR-1511	11.0 x 14.5	2200	2900	28	22 x LVDS 14 bit	2FW, ADC	LFW = 350k HFW = 2.5M	LFW = 100 HFW = 500	LFW = 70.8 dB HFW = 74.0 dB	13.5 x 14.5	3 side	In Development
AR-0606	6.0 x 5.5	1200	1096	51	10 x LVDS 14 bit					8.5 x 5.5	3 side	In Development
AR-2922	22.0 x 29.0	4400	5800	28	88 x LVDS 14 bit					27.0 x 29.0	2 side	In Development
AR-1501	1.0 x 14.5	200	2900	312	22 x LVDS 14 bit					3.5 x 14.5	3 side	In Development
AR-2301	1.0 x 22.7	200	4454	312	34 x LVDS 14 bit					5.5 x 22.7	3 side	In Development
75 µm pixel sensors												
IS-0712-75	11.4 x 6.5	1536	864	30 (1 x 1 bin)	6 x analogue differential	2FW, BIN	LFW = 411k HFW = 2.5M	LFW = 115 HFW = 540	LFW = 71.1 dB HFW = 73.3 dB	11.4 x 7.9	3 side	Production
IS-1512-75	11.4 x 14.9	1536	1984	86 (2 x 2 bin)						11.4 x 16.3	3 side	Production
100 µm pixel sensors												
IS-0510-100	10.3 x 5.1	1030	512	66	50 x serial CMOS 14 bit	2FW	LFW = 440k HFW = 2.5M	LFW = 124 HFW = 508	LFW = 71.0 dB HFW = 73.8 dB	10.2 x 7.4	3 side	Production
IS-1510-100	10.3 x 15.4	1030	1536	198						10.2 x 17.6	3 side	Production
NE-1511	11.0 x 14.5	1100	1450	114	22 x LVDS 14 bit	2FW, ADC	LFW = 350k HFW = 2.5M	LFW = 100 HFW = 500	LFW = 70.8 dB HFW = 74.0 dB	13.5 x 14.5	3 side	In Development
NE-1515	15.0 x 15.0	1500	1502	83	24 x LVDS 14 bit					17.5 x 15.0	3 side	In Development
NE-2222	22.0 x 22.1	2200	2215	114	68 x LVDS 14 bit					27.0 x 22.1	2 side	In Development
NE-3030	30.0 x 30.3	3000	3033	83	96 x LVDS 14 bit					35.0 x 30.3	2 side	In Development
NE-1501	1.0 x 14.5	100	1450	1250	22 x LVDS 14 bit					3.5 x 14.5	3 side	In Development
NE-2301	1.0 x 22.7	100	2272	1250	34 x LVDS 14 bit	5.5 x 22.7	3 side	In Development				
150 µm pixel sensors												
IS-0510-150	10.3 x 5.1	688	340	300	32 x LVDS 14 bit	3FW, ADC	LFW = 800k MFW = 4.5M HFW = 21M	LFW = 190 MFW = 865 HFW = 3970	LFW = 72.5 dB MFW = 74.3 dB HFW = 74.5 dB	10.2 x 7.4	3 side	Production
IS-1510-150	10.3 x 15.3	688	1020	100						10.2 x 17.6	3 side	Production

* All ADCs are configurable for 12 - 16 bits. Frame rates apply to 14 bit operation

** Features key: 2FW = 2 full well modes, 3FW = 3 full well modes, BIN = 1x1 and 2x2 binning modes, ADC = per-column A-D converters,

All of the above sensors are available in custom formats.