

PRODUCT SUMMARY

KODAK KAI-10100 IMAGE SENSOR

3648 (H) X 2760 (V) INTERLINE TRANSFER INTERLACE SCAN COLOR CCD

DESCRIPTION

The KODAK KAI-10100 Image Sensor is a 10 million pixel, 22.5mm diagonal (Four Thirds format) high performance color interline transfer CCD image sensor. Advanced 4.75 micron square pixels provide outstanding sensitivity and dynamic range, and overflow protection is provided in each pixel through the use of a vertical overflow drain.

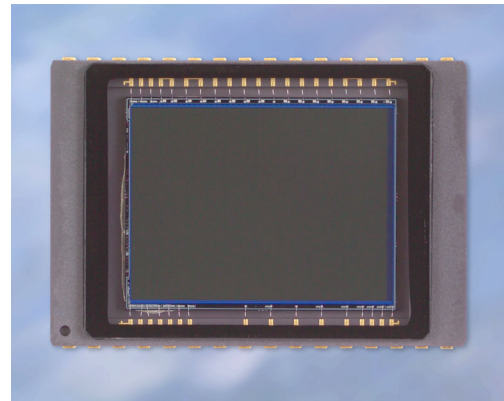
The sensor employs a 4-field interlaced design for full resolution readout, or can be read as a progressive scan device using 1x2, 2x2, or 4x4 color binning modes. Use of these color binning modes provides significantly improved sensitivity and faster readout rates, making this sensor ideal for both Scientific and Photographic applications.

FEATURES

- High resolution with low noise
- High sensitivity and dynamic range
- On-sensor color binning for enhanced sensitivity and frame rate
- Electronic shutter

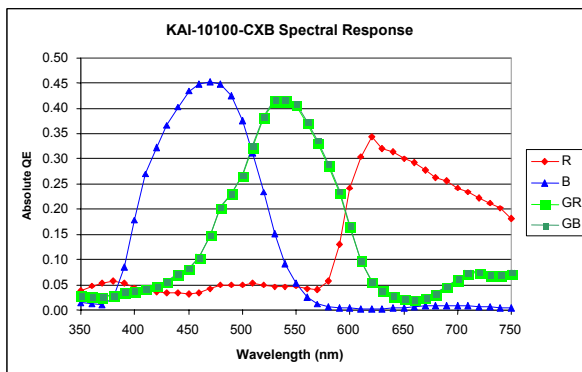
APPLICATIONS

- Industrial inspection
- Scientific imaging
- Photography



Parameter	Typical Value
Architecture	Interline CCD; Interlaced or Progressive Scan
Total Number of Pixels	3868 (H) x 2892 (V) = 11.1M
Number of Effective Pixels	3776 (H) x 2856 (V) = 10.8M
Number of Active Pixels	3760 (H) x 2840 (V) = 10.7M
Pixel Size	4.75 μm (H) x 4.75 μm (V)
Active Image Size	17.86mm (H) x 13.49mm (V) 22.5mm (diagonal)
Aspect Ratio	4:3
Number of Outputs	2
Output Sensitivity	32 $\mu\text{V}/\text{e}$
Saturation Signal	25,000 electrons
Quantum Efficiency R (630 nm), G (550 nm), B (470 nm)	32%, 42%, 40%
Total Noise	10 electrons
Dark Current (T= 40° C)	0.06 nA/cm ²
Dark Current Doubling Temperature	7.5 °C
Dynamic Range	64 dB
Charge Transfer Efficiency	> 0.99999
Blooming Suppression	> 100X
Image Lag	5 e-
Maximum Data Rate	30 MHz
Frame Rate	Full Resolution (FA mode) 5 fps 1x2 bin (3760 x 1420) (FB2 mode) 10 fps 2x2 bin (1880 x 1420) (FB4 mode) 10 fps 4x4 bin (940 x 710) (FD16 mode) 19 fps
Package	32-pin, Cerdip, 0.070" pin spacing
Cover Glass	Clear

All parameters above are specified at T = 20°C, unless noted otherwise



ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0936	KAI-10100-CXB-CB-XA	Color (Bayer RGB), Special Microlens, CERDIP Package sidebrazed pins, Clear Cover Glass (no coatings), Standard Grade	KAI-10100-CXB (Lot Number)
4H0937	KAI-10100-CXB-CB-XE	Color (Bayer RGB), Special Microlens, CERDIP Package sidebrazed pins, Clear Cover Glass (no coatings), Engineering Grade	

Please see ISS Application Note "Product Naming Convention" (MTD/PS-0892) for a full description of naming convention used for KODAK image sensors.

Address all inquiries and purchase orders to:

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