

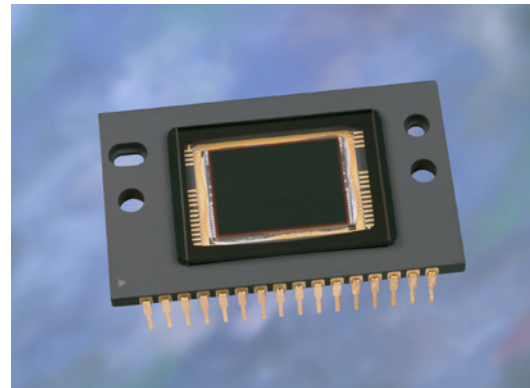
PRODUCT SUMMARY

KODAK KAI-2001 IMAGE SENSOR

1600 (H) X 1200 (V) PROGRESSIVE SCAN INTERLINE CCD IMAGE SENSOR

DESCRIPTION

The Kodak KAI-2001 Image Sensor is a high-performance 2-million pixel sensor designed for a wide range of medical, scientific and machine vision applications. The 7.4 μm square pixels with microlenses provide high sensitivity and the large full well capacity results in high dynamic range. The split horizontal register offers a choice of single or dual output allowing either 15 or 30 frame per second (fps) video rate for the progressively scanned images. Also included is a fast line dump for sub-sampling at higher frame rates. The vertical overflow drain structure provides antiblooming protection and enables electronic shuttering for precise exposure control. Other features include low dark current, negligible lag and low smear.



FEATURES

- High resolution
- High sensitivity
- High dynamic range
- Low noise architecture
- High frame rate
- Binning capability for higher frame rate
- Electronic shutter

APPLICATIONS

- Industrial Imaging
- Scientific Imaging

Parameter	Typical Value
Architecture	Interline CCD; Progressive Scan
Total Number of Pixels	1640 (H) x 1214 (V) = approx. 1.99M
Number of Effective Pixels	1608 (H) x 1208 (V) = approx. 1.94M
Number of Active Pixels	1600 (H) x 1200 (V) = approx. 1.92M
Number of Outputs	1 or 2
Pixel Size	7.4 μm (H) x 7.4 μm (V)
Imager Size	14.803mm (diagonal)
Chip Size	13.38mm (H) x 9.52mm (V)
Aspect Ratio	4:3
Saturation Signal	40,000 e ⁻
Peak Quantum Efficiency	
Mono	55%
Color (RGB)	45%, 42%, 35%
Output Sensitivity	16 $\mu\text{V}/\text{e}^-$
Total System Noise	
at 40MHz	40 e ⁻
at 20 MHz	23 e ⁻
Dark Current	< 0.5 nA/cm ²
Dark Current Doubling Temperature	7°C
Dynamic Range	60 dB
Charge Transfer Efficiency	> 0.99999
Blooming Suppression	300X
Smear	80 dB
Image Lag	<10 e ⁻
Maximum Data Rate	40 MHz

Parameters above are specified at T = 40° C unless otherwise noted.

ORDERING INFORMATION

Catalog Number	Product Name	Description
4H0319	KAI-2001-AAA-CF-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Quartz Cover Glass (no coatings), Engineering Sample
4H0318	KAI-2001-AAA-CF-BA	Monochrome, No Microlens, CERDIP Package (sidebrazed), Quartz Cover Glass (no coatings), Standard Grade
4H0310	KAI-2001-AAA-CR-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Engineering Sample
4H0309	KAI-2001-AAA-CR-BA	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Standard Grade
4H0316	KAI-2001-ABA-CD-AE	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample
4H0315	KAI-2001-ABA-CD-BA	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Standard Grade
4H0355	KAI-2001-ABA-CP-AE	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Sample
4H0354	KAI-2001-ABA-CP-BA	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade
4H0313	KAI-2001-CBA-CD-AE	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample
4H0312	KAI-2001-CBA-CD-BA	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Standard Grade
4H0691	KEK-4H0691-KAI-2001/2020-12-20	Evaluation Board, 12 Bit, 20 MHz (Complete Kit)
4H0692	KEK-4H0692-KAI-2001/2020-10-40	Evaluation Board, 10 Bit, 40 MHz (Complete Kit)

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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