

SUMMARY SPECIFICATION

KODAK KAI-0330 IMAGE SENSOR

648 (H) X 484 (V) PROGRESSIVE SCAN INTERLINE CCD IMAGE SENSOR

DESCRIPTION

The KODAK KAI-0330 Image Sensor is a high performance, low cost, progressive scan 648(H) x 484(V) (½" optical format) Interline CCD Image Sensor designed specifically for demanding machine vision, surveillance, and computer input imaging applications.

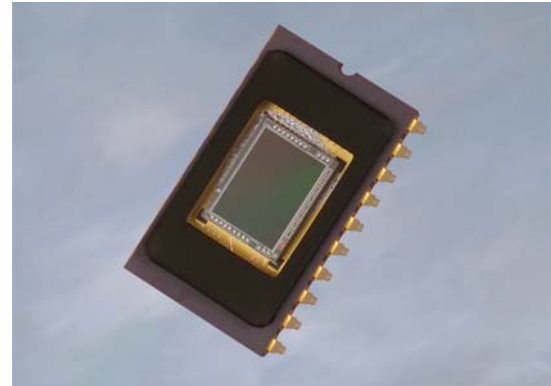
Available in both single- and dual-output configurations, frame rates up to 120 Hz are available, providing the ability to design an image capture device that is up to 4X faster than traditional CCD image sensors. In addition, our 9µm square pixels with microlenses and anti-blooming structure provide high sensitivity and excellent specular reflection blooming control. Coupled with the additional benefits of electronic shutter, rapid clearing of horizontal lines for faster sub-region readout, and availability in color and monochrome configurations, this sensor is an ideal choice for your challenging imaging applications.

FEATURES

- Front Illuminated Interline Architecture
- Progressive Scan
- Electronic Shutter
- Integral RGB Color Filter Array (optional)
- On-Chip Dark Reference Pixels
- Low Dark Current
- Dual Output Shift Registers
- Antiblooming Protection
- Negligible Lag
- Low Smear

APPLICATIONS

- Industrial Imaging



Parameter	Typical Value
Architecture	Interline CCD; Progressive Scan
Total Number of Pixels	680 (H) x 496 (V)
Number of Effective Pixels	648 (H) x 484 (V)
Number of Active Pixels	648 (H) x 484 (V)
Pixel Size	9.0 µm (H) x 9.0 µm (V)
Active Image Size	5.832 mm (H) x 4.356 mm (V) 7.28 mm (diagonal) ½" format
Aspect Ratio	4:3
Number of Outputs	1 or 2
Saturation Signal	30,000 electrons
Output Sensitivity	11.5 µV/e
Quantum Efficiency KAI-0330-ABA (490 nm)	36%
Quantum Efficiency KAI-0330-CBA R(620 nm), G(530 nm), B(460 nm)	25%, 26%, 32%
Total Sensor Noise	0.5 mV rms
Dynamic Range	57 dB
Dark Current	<0.5 nA/cm ²
Dark Current Doubling Temperature	8° C
Charge Transfer Efficiency	.99999
Blooming Suppression	>100X
Smear	.01%
Image Lag	Negligible
Maximum Data Rate	30 MHz
Package	20 pin cerDIP
Cover Glass	Clear Glass

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

ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0777	KAI- 0330-AAA-CP-AE-Dual Output	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Grade, Dual Output	KAI-0330D Serial Number
4H0776	KAI- 0330-AAA-CP-BA-Dual Output	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade, Dual Output	KAI-0330D Serial Number
4H0786	KAI- 0330-ABA-CB-AA-Single Output	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade, Single Output	KAI-0330SM Lot Number
4H0773	KAI- 0330-ABA-CB-AE-Dual Output	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Grade, Dual Output	KAI-0330DM Serial Number
4H0772	KAI- 0330-ABA-CB-BA-Dual Output	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade, Dual Output	KAI-0330DM Serial Number
4H0779	KAI- 0330-CBA-CB-AE-Dual Output	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Grade, Dual Output	KAI-0330DCM Serial Number
4H0778	KAI- 0330-CBA-CB-BA-Dual Output	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade, Dual Output	KAI-0330DCM Serial Number
4H0284	KEK-4H0284-KAI-0330-12-30	Evaluation Board (Complete Kit)	n/a

Please see the User's Manual (MTD/PS-0340) for information on the Evaluation Kit for this part.

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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