

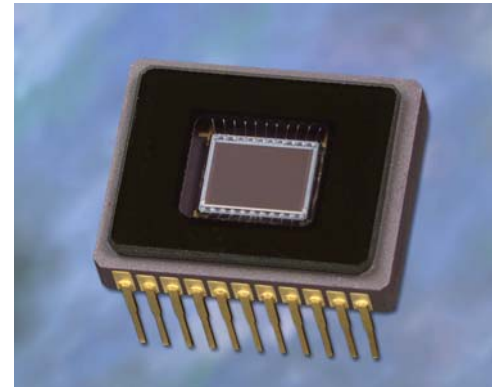
PRODUCT SUMMARY

KODAK KAI-0340 IMAGE SENSOR

640 (H) X 480 (V) INTERLINE TRANSFER PROGRESSIVE SCAN CCD

DESCRIPTION

The KODAK KAI-0340 image sensor is a 640 (H) x 480 (V) resolution, 1/3" optical format, progressive scan interline CCD. This image sensor is offered in 2 versions: the KAI-0340-Dual and the KAI-0340-Single. The KAI-0340-Dual will support 210 full resolution frame-per-second readout while the KAI-0340-Single will support 110 frame-per-second readout. Frame rates as high as 2,000 Hz (KAI-0340-Single) and 3,400 Hz (KAI-0340-Dual) can be achieved using the Fast Horizontal Line Dump feature to eliminate horizontal lines during readout and special clocking mode enabled by this sensor. Designed for demanding imaging applications, this sensor has additional features including electronic shuttering, peak QE (quantum efficiency) of 55%, extremely low noise and low dark current. These features give this sensor exceptional sensitivity and make it ideal for machine vision, scientific, surveillance, and other computer input applications. Both sensor versions can also be supplied with Kodak's RGB Bayer color filter array, making it a color sensor for your critical color applications.

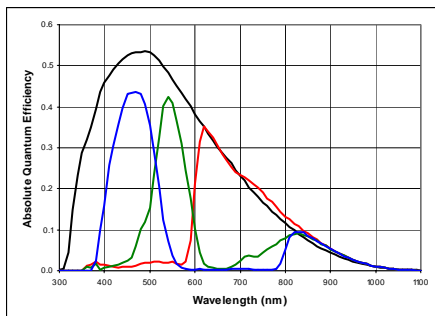


FEATURES

- High sensitivity
- High dynamic range
- Low noise architecture
- High frame rate
- Electronic shutter

APPLICATIONS

- Industrial inspection



Parameter	Value
Architecture	Interline CCD; Progressive Scan
Total Number of Pixels	696 (H) x 492 (V)
Number of Effective Pixels	648 (H) x 484 (V)
Number of Active Pixels	640 (H) x 480 (V)
Pixel Size	7.4 μm (H) x 7.4 μm (V)
Active Image Size	4.736mm (H) x 3.552mm (V) 5.920mm (diagonal) 1/3" optical format
Aspect Ratio	4:3
Number of Outputs	1 or 2
Charge Capacity	40 MHz – 20,000 electrons 20 MHz – 40,000 electrons
Output Sensitivity	30 $\mu\text{V}/\text{e}$
Photometric Sensitivity KAI-0340-ABB	3.61 V/lux-sec
Photometric Sensitivity KAI-0340-CBA	1.17(B), 1.54(G), 0.65(R) V/lux-sec
Readout Noise	40 MHz – 16 electrons 20 MHz – 14 electrons
Dynamic Range	40 MHz – 62 dB 20 MHz – 69 dB
Dark Current	Photodiode < 200 eps VCCD < 1000 eps
Maximum Pixel Clock Speed	40MHz
Maximum Frame Rate	KAI-0340-Dual – 210 fps KAI-0340-Single – 110 fps
Package Type	CerDIP
Package Size	0.500" [12.70mm] width 0.625" [15.87mm] length
Package Pins	22
Package Pin Spacing	0.050"

All parameters above are specified at T = 40°C

ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0655	KAI-0340-AAA-CP-AA-Single	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade, Single Output	KAI-0340S
4H0656	KAI-0340-AAA-CP-AE-Single	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Grade, Single Output	
4H0657	KAI-0340-AAA-CP-AA-Dual	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade, Dual Output	KAI-0340D
4H0658	KAI-0340-AAA-CP-AE-Dual	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Grade, Dual Output	
4H0659	KAI-0340-AAA-CF-AA-Single	Monochrome, No Microlens, CERDIP Package (sidebrazed), Quartz Cover Glass, no coatings, Standard Grade, Single Output	KAI-0340S
4H0660	KAI-0340-AAA-CF-AE-Single	Monochrome, No Microlens, CERDIP Package (sidebrazed), Quartz Cover Glass, no coatings, Engineering Grade, Single Output	
4H0661	KAI-0340-AAA-CF-AA-Dual	Monochrome, No Microlens, CERDIP Package (sidebrazed), Quartz Cover Glass, no coatings, Standard Grade, Dual Output	KAI-0340D
4H0662	KAI-0340-AAA-CF-AE-Dual	Monochrome, No Microlens, CERDIP Package (sidebrazed), Quartz Cover Glass, no coatings, Engineering Grade, Dual Output	
4H0872	KAI-0340-ABA-CP-AA-Single	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade, Single Output	KAI-0340ABBS
4H0873	KAI-0340-ABA-CP-AE-Single	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Grade, Single Output	
4H0874	KAI-0340-ABA-CP-AA-Dual	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade, Dual Output	KAI-0340ABBD
4H0875	KAI-0340-ABA-CP-AE-Dual	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Grade, Dual Output	
4H0868	KAI-0340-ABA-CB-AA-Single	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Standard Grade, Single Output	KAI-0340ABBS
4H0869	KAI-0340-ABA-CB-AE-Single	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Engineering Grade, Single Output	
4H0870	KAI-0340-ABA-CB-AA-Dual	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Standard Grade, Dual Output	KAI-0340ABBD
4H0871	KAI-0340-ABA-CB-AE-Dual	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Engineering Grade, Dual Output	
4H0663	KAI-0340-CBA-CB-AA-Single	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Standard Grade, Single Output	KAI-0340SCM
4H0664	KAI-0340-CBA-CB-AE-Single	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Engineering Grade, Single Output	
4H0665	KAI-0340-CBA-CB-AA-Dual	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Standard Grade, Dual Output	KAI-0340DCM
4H0666	KAI-0340-CBA-CB-AE-Dual	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass, no coatings, Engineering Grade, Dual Output	
4H0472	KEK-4H0472-KAI-0340-10-40	Evaluation Board [Complete Kit]	n/a

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

For all reference documentation, please visit our Web Site at www.kodak.com/go/imagers.

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