

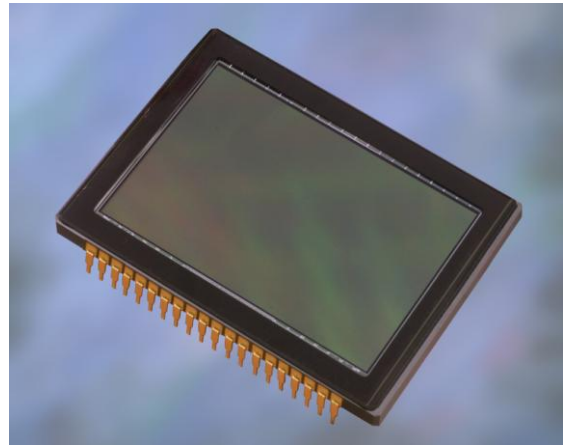
PRODUCT SUMMARY

KODAK KAI-11002 IMAGE SENSOR

4008 (H) X 2672 (V) INTERLINE TRANSFER PROGRESSIVE SCAN CCD

DESCRIPTION

The Kodak KAI-11002 Image Sensor is a high-performance 11-million pixel sensor designed for professional digital still camera applications. The 9.0 μm square pixels with microlenses provide high sensitivity and the large full well capacity results in high dynamic range. The two high-speed outputs and binning capabilities allow for 1-3 frames per second (fps) video rate for the progressively scanned images. 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.

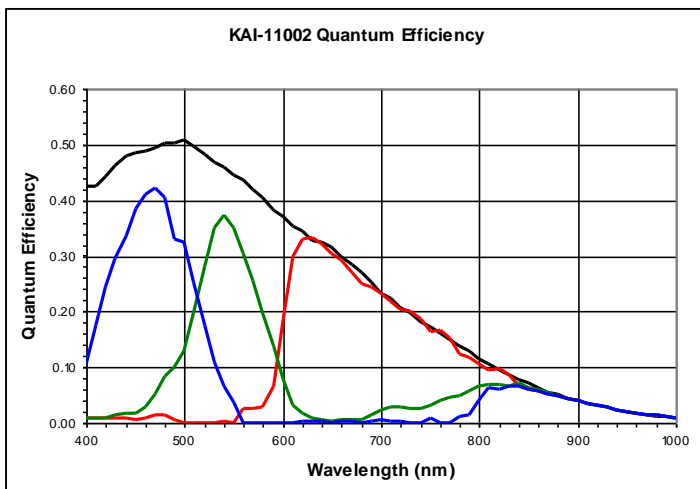


FEATURES

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

APPLICATIONS

- Industrial inspection
- Aerial Photography



Parameter	Value
Architecture	Interline CCD; Progressive Scan
Total Number of Pixels	4072 (H) x 2720 (V) = 11.1M
Number of Effective Pixels	4033 (H) x 2688 (V) = 10.8M
Number of Active Pixels	4008 (H) x 2672 (V) = 10.7M
Number of Outputs	1 or 2
Pixel Size	9.0 μm (H) x 9.0 μm (V)
Imager Size	43.3mm (diagonal)
Chip Size	37.25mm (H) x 25.70mm (V)
Aspect Ratio	3:2
Saturation Signal	60,000 electrons
Quantum Efficiency (KAI-11002-ABA)	50%
Quantum Efficiency (KAI-11002-CBA) RGB	34%, 37%, 42%
Output Sensitivity	13 $\mu\text{V}/\text{e}$
Total Noise	30 electrons
Dark Current	< 50 mV/s
Dark Current Doubling Temperature	7 $^{\circ}\text{C}$
Dynamic Range	66 dB
Charge Transfer Efficiency	> 0.99999
Blooming Suppression	> 1000X
Smear	< -80 dB
Image Lag	< 10 electrons
Maximum Data Rate	28 MHz
Package	40-pin, CerDIP, 0.070" pin spacing
Cover Glass	AR Coated

All parameters above are specified at T = 40 $^{\circ}\text{C}$

ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0745	KAI-11002-AAA-CR-B1	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Grade 1	KAI-11002-AAA S/N
4H0746	KAI-11002-AAA-CR-B2	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Grade 2	
4H0747	KAI-11002-AAA-CR-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Engineering Sample	
4H0805	KAI-11002-ABA-CD-BX	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Special Grade	KAI-11002-ABA S/N
4H0735	KAI-11002-ABA-CD-B0	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 0	
4H0736	KAI-11002-ABA-CD-B1	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 1	
4H0737	KAI-11002-ABA-CD-B2	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 2	
4H0738	KAI-11002-ABA-CD-AE	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample	
4H0742	KAI-11002-ABA-CR-B1	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Grade 1	
4H0743	KAI-11002-ABA-CR-B2	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Grade 2	
4H0744	KAI-11002-ABA-CR-AE	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass with AR coating (2 sides), Engineering Sample	
4H0732	KAI-11002-CAA-CD-B1	Color (Bayer RGB), No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 1	KAI-11002-CAA S/N
4H0733	KAI-11002-CAA-CD-B2	Color (Bayer RGB), No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 2	
4H0734	KAI-11002-CAA-CD-AE	Color (Bayer RGB), No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample	
4H0739	KAI-11002-CBA-CD-B1	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 1	KAI-11002-CBA S/N
4H0740	KAI-11002-CBA-CD-B2	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 2	
4H0741	KAI-11002-CBA-CD-AE	Color (Bayer RGB), Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample	
4H0178	KEK-4H0178-KAI-11000/11002-12-30	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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