

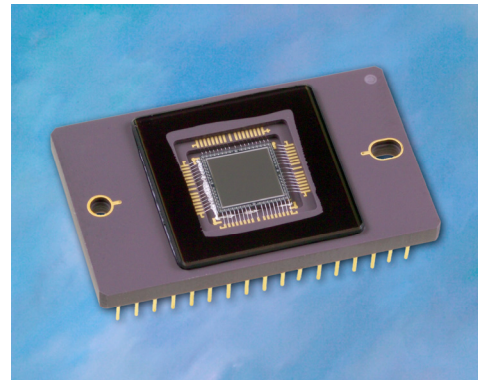
PRODUCT SUMMARY

KODAK KAI-01050 IMAGE SENSOR

1024 (H) X 1024 (V) PROGRESSIVE SCAN INTERLINE CCD IMAGE SENSOR

DESCRIPTION

The KODAK KAI-01050 Image Sensor is a 1024 (H) x 1024 (V) resolution, 1/2" optical format, progressive scan interline CCD. A flexible readout architecture is used that enables the use of either 1, 2 or 4 outputs to achieve frame rates up to 120 fps. 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

- Progressive scan readout
- High frame rate
- Flexible readout architecture
- High sensitivity
- Low noise architecture
- Improved smear performance
- Electronic shutter

APPLICATIONS

- Industrial Imaging

Parameter	Typical Value
Architecture	Interline CCD; Progressive Scan
Total Number of Pixels	1084 (H) x 1064 (V)
Number of Effective Pixels	1040 (H) x 1040 (V)
Number of Active Pixels	1024 (H) x 1024 (V)
Pixel Size	5.5 μm (H) x 5.5 μm (V)
Active Image Size	5.632mm (H) x 5.632mm (V) 7.96mm (diagonal) 1/2" optical format
Aspect Ratio	1:1
Number of Outputs	1, 2, or 4
Charge Capacity	20,000 electrons
Output Sensitivity	34 μV/e
Quantum Efficiency KAI-01050-ABA (500nm)	50 %
Quantum Efficiency KAI-01050-CBA R(620nm), G(540nm), B(470nm)	31 %, 42 %, 43 %
Read Noise (f= 40MHz)	12 electrons rms
Dark Current	Photodiode: 7 eps VCCD: 70 eps
Dark Current Doubling Temperature	Photodiode: 7 °C VCCD: 9 °C
Dynamic Range	64 dB
Charge Transfer Efficiency	0.999999
Blooming Suppression	> 300 X
Smear	-100 dB
Image Lag	< 10 electrons
Maximum Pixel Clock Speed	40 MHz
Maximum Frame Rates	30 fps (single output) 60 fps (dual output) 120 fps (quad output)
Package	68 pin PGA
Cover Glass	AR Coated, 2 Sides

Unless noted, all parameters above are specified at T = 40° C

ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0901	KAI-01050-ABA-JD-BA	Monochrome, Telecentric Microlens, PGA Package, Clear Cover Glass with AR coating (both sides), Standard Grade	KAI-01050-ABA Serial Number
4H0902	KAI-01050-ABA-JD-AE	Monochrome, Telecentric Microlens, PGA Package, Clear Cover Glass with AR coating (both sides), Engineering Grade	KAI-01050-ABA Serial Number
4H0915	KAI-01050-CBA-JD-BA	Color (Bayer RGB), Telecentric Microlens, PGA Package, Clear Cover Glass with AR coating (both sides), Standard Grade	KAI-01050-CBA Serial Number
4H0916	KAI-01050-CBA-JD-AE	Color (Bayer RGB), Telecentric Microlens, PGA Package, Clear Cover Glass with AR coating (both sides), Engineering Grade	KAI-01050-CBA Serial Number

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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