Kodak
Image Sensor Solutions

PRODUCT SUMMARY

KODAK KAF-40000 IMAGE SENSOR

7304 (H) X 5478 (V) FULL FRAME CCD IMAGE SENSOR

DESCRIPTION

The KODAK KAF-40000 Image Sensor is a high performance, 40-megapixel CCD. Based on the KODAK TRUESENSE 6.0 micron Full Frame CCD Platform, the sensor features ultra-high resolution, broad dynamic range, and a four-output architecture. A lateral overflow drain suppresses image blooming, while an integrated Pulse Flush Gate clears residual charge on the sensor with a single electrical pulse. A Fast Dump Gate can be used to selectively remove a line of charge to facilitate partial image readout.

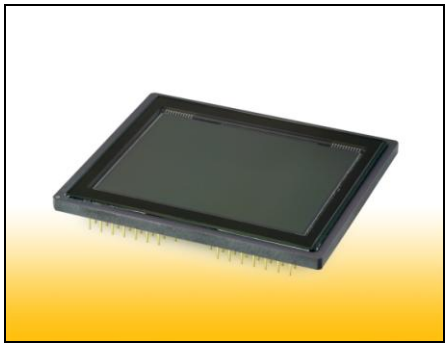
The sensor shares a common pin-out and electrical configuration with the KODAK KAF-50100 Image Sensor, allowing a single camera design to support both members of this sensor family.

FEATURES

- Ultra-high resolution
- Broad dynamic range
- Low noise architecture
- Large active imaging area

APPLICATIONS

- Professional Digital Still Cameras and Camera Backs
- Industrial Imaging
- Aerial Photography



Parameter	Typical Value
Architecture	Full Frame CCD (Square Pixels)
Total Number of Pixels	7410 (H) x 5566 (V) = 41.2M
Number of Effective Pixels	7336 (H) x 5510 (V) = 40.4M
Number of Active Pixels	7304 (H) x 5478 (V) = 40.0M
Pixel Size	6.0µm (H) x 6.0µm (V)
Active Image Size	45.76mm (H) x 35.34 mm (V) 54.78 mm (diagonal)
Aspect Ratio	4:3
Horizontal Outputs	4
Saturation Signal	42 K e^-
Output Sensitivity	31 µV/e^-
Quantum Efficiency (Peak R, G, B)	42%, 44%, 38%
Read Noise (f=18MHz)	13 e^-
Dark Signal (T=60°C)	42pA/cm^2
Dark Current Doubling Temp	5.5° C
Dynamic Range (f=18 MHz)	70.2dB
Estimated Linear Dynamic Range (f=18 MHz)	69.3dB
Charge Transfer Efficiency Horizontal Vertical	 0.999995 0.999999
Blooming Protection (4ms exposure time)	1400X saturation exposure
Maximum Data Rate	18 MHz
Package	Ceramic PGA
Cover Glass	MAR coated, 2 sides

All parameters are specified at T = 40° C unless otherwise noted.

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ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H2071	KAF-40000-CXA-JD-AA	Color (Bayer RGB), Microlens, Enhanced, ESD, Ceramic PGA, Clear Cover Glass with AR coating (both sides), Standard Grade	KAF-40000-CXA [Serial Number]
4H2072	KAF-40000-CXA-JD-AE	Color (Bayer RGB), Microlens, Enhanced, ESD, Ceramic PGA, Clear Cover Glass with AR coating (both sides), Engineering Grade	

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.

Please address all inquiries and purchase orders to:

Image Sensor Solutions
Eastman Kodak Company
Rochester, New York 14650-2010

Phone: (585) 722-4385
Fax: (585) 477-4947
E-mail: imagers@kodak.com

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