

PRODUCT SUMMARY

KODAK KAF-50100 IMAGE SENSOR

8176 (H) X 6132 (V) FULL FRAME CCD IMAGE SENSOR

DESCRIPTION

The KODAK KAF-50100 Image Sensor is a high performance, 50-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.

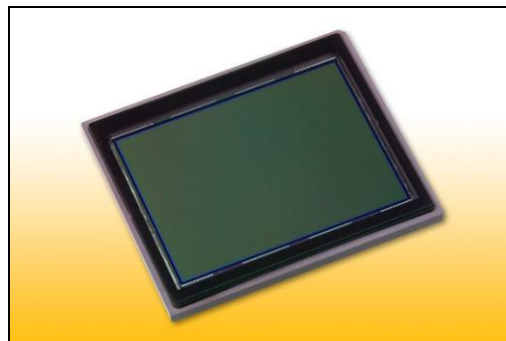
The sensor shares a common pin-out and electrical configuration with the KODAK KAF-40000 Image Sensor, allowing a single camera design to support both members of this sensor family.

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	8304 (H) x 6220 (V) = 51.6 M
Number of Effective Pixels	8208 (H) x 6164 (V) = 50.5 M
Number of Active Pixels	8176 (H) x 6132 (V) = 50.1 M
Pixel Size	6.0µm (H) x 6.0µm (V)
Active Image Size	49.1 mm (H) x 36.8 mm (V) 61.3 mm (diagonal)
Aspect Ratio	4:3
Horizontal Outputs	4
Saturation Signal	40.3 K e ⁻
Output Sensitivity	31 µV/e ⁻
Quantum Efficiency KAF-50100-CAA KAF-50100-AAA	22%, 22%, 16% (Peak R, G, B) 25%
Read Noise (f=18MHz)	12.5 e ⁻
Dark Signal (T=60°C)	42pA/cm ²
Dark Current Doubling Temp	5.7° C
Dynamic Range (f=18 MHz)	70.2 dB
Estimated Linear Dynamic Range (f=18 MHz)	69.3 dB
Charge Transfer Efficiency Horizontal Vertical	0.999995 0.999999
Blooming Protection (4ms exposure time)	800X 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.

ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H2027	KAF-50100-CAA-JD-AA	Color (Bayer RGB), No Microlens, Enhanced, ESD, Ceramic PGA, Clear Cover Glass with AR coating (both sides), Standard Grade	KAF-50100-CAA [Serial Number]
4H2028	KAF-50100-CAA-JD-AE	Color (Bayer RGB), No Microlens, Enhanced, ESD, Ceramic PGA, Clear Cover Glass with AR coating (both sides), Engineering Grade	
4H2064	KAF-50100-AAA-JD-BA	Monochrome, No Microlens, Enhanced, ESD, Ceramic PGA, Clear Cover Glass with AR coating (both sides), Standard Grade	KAF-50100-AAA [Serial Number]
4H2065	KAF-50100-AAA-JD-AE	Monochrome, No 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:

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