

PRODUCT SUMMARY

KODAK KAF-50100 IMAGE SENSOR

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

DESCRIPTION

The KODAK KAF-50100 is a four output, high performance CCD (charge coupled device) image sensor with 8176(H) x 6132(V) photoactive pixels designed for a wide range of image sensing applications. The device is available in a color or monochrome version. Each pixel contains anti-blooming protection by means of a lateral overflow drain (LOD) thereby preventing image corruption during high light level conditions. A Pulse Flush Gate (PFG) is available to remove charge from every pixel. A Fast Dump Gate (FDG) is available to selectively remove a line of charge during readout. For the color version of this sensor, each of the 6.0µm square pixels are selectively covered with red, green or blue pigmented filters for color separation. The sensor is housed in a 52 pin, PGA package with 100 mil pin spacing.



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) = 50.1M
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 at Peak R, G, B (color version)	0.22, 0.22, 0.16
Quantum Efficiency at 550nm (monochrome version)	0.25
Read Noise (f=18MHz)	12.5 e ⁻
Dark Signal (T=60°C)	42pA/cm ²
Dark Current Doubling Temperature	5.7° C
Dynamic Range (f=18 MHz)	70.2 dB
Estimated Linear Dynamic Range (f=18 MHz)	69.3 dB
Horizontal Charge Transfer Efficiency	0.999995
Vertical Charge Transfer Efficiency	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 above are specified at T = 25° C, unless noted otherwise.

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	

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.

Please address all inquiries and purchase orders to:

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