

PRODUCT SUMMARY

KODAK KAF-16801 IMAGE SENSOR

4096 (H) X 4096 (V) FULL FRAME CCD IMAGE SENSOR

DESCRIPTION

The KAF-16801 is a high performance monochrome area CCD (charge-coupled device) image sensor with 4096H x 4096V photo active pixels designed for a wide range of image sensing applications in the 400 to 1000 nm wavelength band. Typical applications include military, scientific, and industrial imaging. A 76dB dynamic range is possible operating at room temperature.

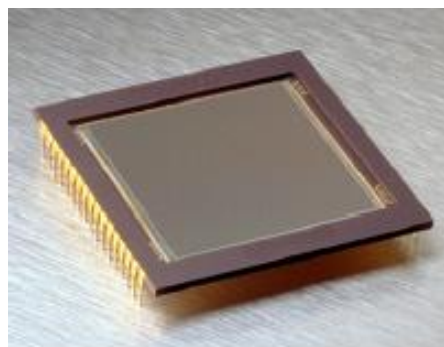
The sensor is built with a true two-phase CCD technology employing a transparent gate. This technology simplifies the support circuits that drive the sensor and reduces the dark current without compromising charge capacity. The transparent gate results in spectral response increased ten times at 400nm, compared to a front side illuminate polysilicon gate technology. The sensitivity is increased 50% over the rest of the visible wavelengths. Total chip size is 38.60 mm x 37.76 mm and is housed in a 34-pin, 2.010" wide DIL ceramic package with 0.1" pin spacing.

FEATURES

- 16M Pixel Area CCD
- 4096H x 4096V (9 μm) Pixels
- 36.88 mm H x 36.88 mm V Photosensitive Area
- 2-Phase Register Clocking
- 100% Fill Factor
- High Output Sensitivity (13 $\mu\text{V}/\text{e}^-$)
- Low Dark Current (<10pA/cm² at 25° C)

APPLICATIONS

- Medical Imaging
- Scientific Imaging



Parameter	Typical Value
Architecture	Full Frame CCD
Pixel Count	4096(H) x 4096(V)
Pixel Size	9 μm (H) x 9 μm (V)
Imager Size	36.88 mm (H) x 36.88 mm (V)
Chip Size	38.60 mm (H) x 37.76 mm (V)
Optical Fill Factor	100%
Saturation Signal	100,000 electrons
Output Sensitivity	13 $\mu\text{V}/\text{electron}$
Dark Current (25° C, Accumulation Model)	<10pA/cm ²
Dark Current Doubling Rate	6° C
Dynamic Range (Saturation Signal/Dark Noise)	76 dB
Quantum Efficiency (450, 550, 650 nm)	40%, 52%, 65%
Maximum Data Rate	10 MHz
Package	CERDIP Package (sidebrazed)
Cover Glass	Clear

ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
2H4793	KAF-16801-AAA-DP-B1	Monochrome, No Microlens, CERDIP Package (sidebrazed, CuW), Taped Clear Cover Glass, No Coatings, Grade 1	KAF-16801-AAA (Serial Number)
2H4794	KAF-16801-AAA-DP-B2	Monochrome, No Microlens, CERDIP Package (sidebrazed, CuW), Taped Clear Cover Glass, No Coatings, Grade 2	
2H4798	KAF-16801-AAA-DP-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed, CuW), Taped Clear Cover Glass, No Coatings, Engineering Sample	
4H0082	KEK-4H0082-KAF-16801-12-5	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.

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

Kodak reserves the right to change any information contained herein without notice. All information furnished by Kodak is believed to be accurate.