

## PRODUCT SUMMARY

### KODAK KAF-4320 IMAGE SENSOR

2084 (H) X 2085 (V) FULL FRAME CCD IMAGE SENSOR

#### DESCRIPTION

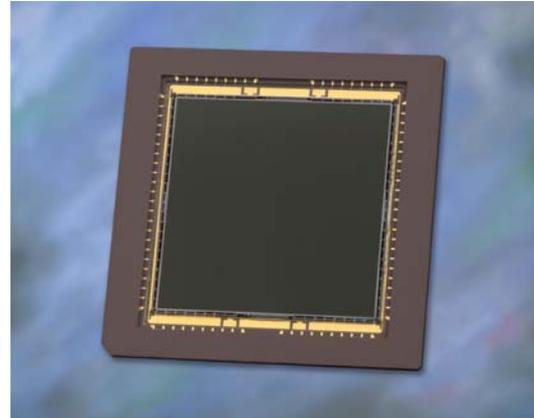
The KODAK KAF-4320 Image Sensor is a high performance monochrome area CCD (charge-coupled device) image sensor with 2084H x 2085V photoactive pixels. It is designed for a wide range of image sensing applications in the 350 nm to 1000 nm wavelength band. A dynamic range of >32,000:1 is possible with read out time less than 0.5 seconds.

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, reduces the dark current without compromising charge capacity, and significantly increases to optical response compared to traditional front illuminated full frame sensors.

Twenty-four micron pixels are arranged into an array of 2084x2085 photosites. One quarter of the image is read from each of four outputs. Each output is driven by a low impedance two stage source follower that provides a high conversion gain, allowing low noise at pixel rates of 3MHz per output (net readout rate of 12MHz).

#### APPLICATIONS

- Medical Imaging
- Scientific Imaging



Parameter	Typical Value
Architecture	Full-Frame CCD
Total Number of Pixels	2092 (H) x 2093 (V)
Number of Active Pixels	2084 (H) x 2085 (V) = approx. 4.3M
Pixel Size	24 $\mu\text{m}$ (H) x 24 $\mu\text{m}$ (V)
Imager Size	50.02 mm (H) x 50.02 mm (V)
Die Size	8.4mm (H) x 5.5mm (V)
Output Sensitivity	10 $\mu\text{V}/\text{e}^-$
Saturation Signal	500,000 electrons
Readout Noise	20 electrons (3 MHz)
Outputs	4
Dark Current (T = 25° C)	<15pA/cm <sup>2</sup>
Dark Current Doubling Temperature	6.4° C
Dynamic Range	20,000: 1
Blooming Suppression	None
Maximum Data Rate	3 MHz
Package	PGA Package
Cover Glass	Clear

## ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0476	KAF- 4320-AAA-JP-B1	Monochrome, No Microlens, PGA Package, Taped Clear Cover Glass, no coatings, Grade 1	KAF- 4320-AAA (Lot Number)
4H0477	KAF- 4320-AAA-JP-B2	Monochrome, No Microlens, PGA Package, Taped Clear Cover Glass, no coatings, Grade 2	
4H0478	KAF- 4320-AAA-JP-AE	Monochrome, No Microlens, PGA Package, Taped Clear Cover Glass, no coatings, Engineering Sample	
4H0475	KEK-4H0475-KAF-4320-16-3	Evaluation Board (Complete Kit)	N/A

Please see the User's Manual (MTD/PS-0563) for information on the Evaluation Kit for this part.

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](http://www.kodak.com/go/imagers).

Address all inquiries and purchase orders to:

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E-mail: [imagers@kodak.com](mailto:imagers@kodak.com)

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