

PRODUCT SUMMARY

KODAK KAF-0261 IMAGE SENSOR

512 (H) X 512 (V) FULL FRAME CCD IMAGE SENSOR

DESCRIPTION

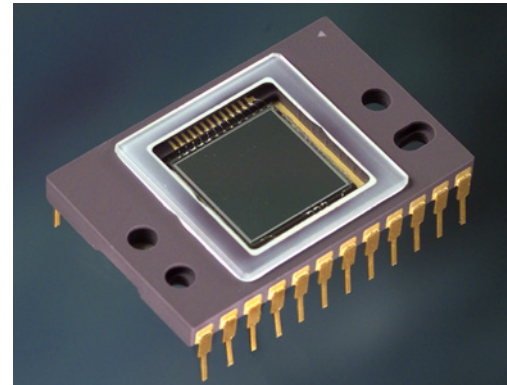
The KODAK KAF-0261 Image Sensor is a high performance, charge coupled device (CCD) designed for a wide range of image sensing applications in the 0.3 μ m to 1.1 μ m wavelength band.

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 dark current without compromising charge capacity. The transparent gate results in spectral response increased ten times at 400nm, compared to a front side illuminated standard polysilicon gate technology. The sensitivity is increased 50% over the rest of the visible wavelengths.

The low dark current of the KAF-0261 makes this device suitable for low light imaging applications without sacrificing in charge capacity. The clock selectable on-chip output amplifiers have been specially designed to meet two different needs. The first is a high sensitivity 2-stage output with 10 μ V/e⁻ charge to voltage conversion ratio. The second is a single stage output with 3.5 μ V/e⁻ charge to voltage conversion ratio.

FEATURES

- Front Illuminated Full-Frame Architecture
- 512(H) x 512(V) Photosensitive Pixels
- Transparent Gate True Two Phase Technology (Enhanced Spectral Response)
- 20 μ m (H) x 20 μ m (V) Pixel Size
- 1:1 Aspect Ratio with 100% Fill Factor
- Single Readout Register
- 2 Clock Selectable Outputs
- High Gain Output (10 μ V/e⁻) for low noise, Low Gain Output (3.5 μ V/e⁻) for high dynamic range
- Low Dark Current (<30pA/cm² at T=25° C)



Parameter	Typical Value
Architecture	Full-Frame CCD
Pixel Count	512 (H) x 512 (V)
Pixel Size	20 μ m (H) x 20 μ m (V)
Imager Size	10.2 mm (H) x 10.2 mm (V)
Chip Size	11.3 mm (H) x 11.6 mm (V)
Optical Fill-Factor	100%
Saturation Signal	
High Sensitivity Output	200,000 electrons
High Dynamic Range	500,000 electrons
Output High Sensitivity Output	10 μ V/electron
Sensitivity High Dynamic Range	2.0 μ V/electron
Readout Noise [1 MHz]	22 electrons rms
Dark Current [25°C, Accumulation Mode]	<30 pA/cm ²
Dark Current Doubling Rate	6°C
Dynamic Range (Sat Sig/Dark Noise)	
High Sensitivity Output	83 dB
High Dynamic Range	87 dB
Quantum Efficiency [450, 550, 650 nm]	35%, 55%, 58%
Maximum Data Rate	
High Sensitivity Output	5 MHz
High Dynamic Range	2 MHz
Transfer Efficiency [2 MHz, to -40°C]	>0.99997

APPLICATIONS

- Scientific Imaging

ORDERING INFORMATION

Catalog Number	Product Name	Description
4H0808	KAF-0261-AAA-CD-BA	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Standard Grade
2H4468	KAF-0261-AAA-CD-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample
4H0810	KAF-0261-AAA-CP-BA	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Standard Grade
2H4470	KAF-0261-AAA-CP-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Sample
4H0081	KEK-4H0081-KAF-0261-12-5	Evaluation Board (Complete Kit)

Please see ISS Application Note "Product Naming Convention" (MTD/PS-0892) for a full description of naming convention used for KODAK image sensors.

Address all inquiries and purchase orders to:

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