

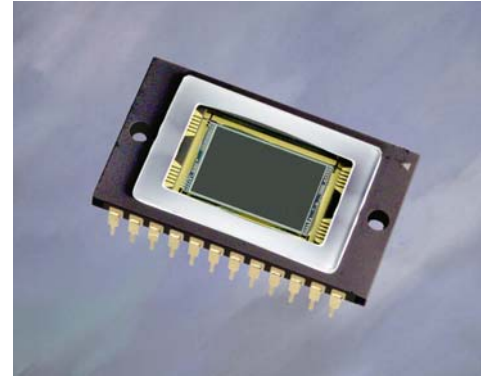
PRODUCT SUMMARY

KODAK KAF-1603E/ME IMAGE SENSOR

1536 (H) X 1024 (V) FULL FRAME CCD IMAGE SENSOR

DESCRIPTION

The KODAK KAF-1603 Image Sensor is a high performance monochrome area CCD (charge-coupled device) image sensor with 1536H x 1024V photoactive pixels. It is designed for a wide range of image sensing applications in the 350 nm to 1000 nm wavelength band. Low dark current and good charge capacity result in 74 dB dynamic range 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, reduces the dark current without compromising charge capacity, and significantly increases to optical response compared to traditional front illuminated full frame sensors. Optional microlenses focus the majority of the light through the transparent gate, increasing the optical response further. The photoactive area is 13.8 mm x 9.2 mm. The imager is housed in a 24 pin, 0.88" wide, dual in line package with 0.100" pin spacing.



APPLICATIONS

- Scientific Imaging

Parameter	Typical Value
Architecture	Full Frame CCD
Total Number of Pixels	1552 (H) x 1032 (V)
Number of Active Pixels	1536 (H) x 1024 (V) = approx. 1.6 M
Pixel Size	9.0 μm (H) x 9.0 μm (V)
Active Image Size	13.8 mm (H) x 9.2 mm (V)
Die Size	15.5mm (H) x 10mm (V)
Aspect Ratio	3:2
Saturation Signal	100,000 electrons
Output Sensitivity	10 $\mu\text{V}/\text{e}$
Quantum Efficiency (with microlens)	Peak: 77% 400 nm: 45%
Quantum Efficiency (no microlens)	Peak: 65% 400nm: 30%
Read Noise	15 electrons
Dark Current (T = 25°C)	<10pA/cm ²
Dark Current Doubling Temperature	6.3°C
Dynamic Range	74dB
Charge Transfer Efficiency	>0.99999
Blooming Suppression	None
Maximum Data Rate	10 MHz
Package	CERDIP Package (sidebrazed)
Cover Glass	Clear or AR coated, 2sides

ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0217	KAF-1603-ABA-CD-B2	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 2	KAF-1603-ABA [Serial Number]
4H0219	KAF-1603-ABA-CD-AE	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample	
4H0222	KAF-1603-ABA-CP-B2	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Grade 2	
4H0223	KAF-1603-ABA-CP-B3	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Grade 3	
4H0224	KAF-1603-ABA-CP-AE	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Sample	
4H0337	KAF-1603-AAA-CP-B2	Monochrome, Telecentric Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Grade 2	KAF-1603-AAA [Serial Number]
4H0339	KAF-1603-AAA-CP-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Sample	
4H0342	KAF-1603-AAA-CB-B2	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Grade 2	
4H0344	KAF-1603-AAA-CB-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Sample	
4H0078	KEK-4H0078-KAF-1602/1603-12-5	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.

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