Kodak
Image Sensor Solutions

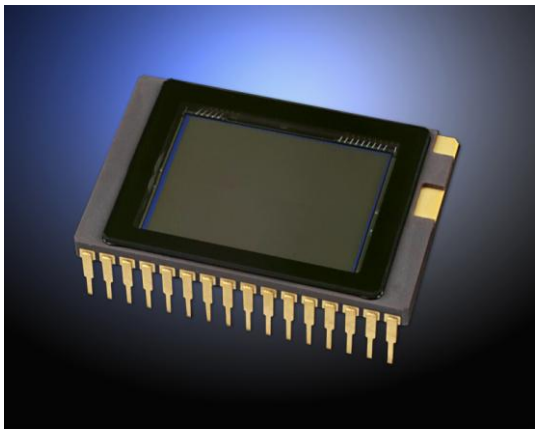
SUMMARY SPECIFICATION

KODAK KAF-8300 IMAGE SENSOR

3326 (H) X 2504 (V) FULL FRAME CCD IMAGE SENSOR

DESCRIPTION

The KODAK KAF-8300 Image Sensor is a 22.5mm diagonal (Four Thirds Format) high performance color or monochrome full frame CCD (charge-coupled device) image sensor designed for a wide range of image sensing applications including digital imaging. Each pixel contains blooming protection by means of a lateral overflow drain thereby preventing image corruption during high light level conditions. For the color version, each of the 5.4µm square pixels are patterned with an RGB mosaic color filter with overlying microlenses for improved color response and reproduction. Several versions of monochrome devices are available with or without microlenses.



FEATURES

- High Resolution
- High Dynamic Range
- Low Noise Architecture

APPLICATIONS

- Photography
- Industrial Imaging
- Medical Imaging

Parameter	Typical Value
Architecture	Full Frame CCD; with Square Pixels
Total Number of Pixels	3448 (H) x 2574 (V) = approx. 8.9M
Number of Effective Pixels	3358 (H) x 2536 (V) = approx. 8.6M
Number of Active Pixels	3326 (H) x 2504 (V) = approx. 8.3M
Pixel Size	5.4µm (H) x 5.4µm (V)
Active Image Size	17.96mm (H) x 13.52mm (V) 22.5mm (diagonal)
Aspect Ratio	4:3
Horizontal Outputs	1
Saturation Signal	> 25.5 K e^-
Output Sensitivity	23 µV/e^-
Quantum Efficiency, color R(600nm), G(540nm), B(480nm)	33%, 40 %, 33%
Quantum Efficiency, monochrome Microlens, clear glass (540nm) Microlens, no glass (540nm) Microlens, AR glass (540nm) No Microlens, clear glass (560nm)	 54% 60% 56% 37%
Total Sensor Noise	16 e^-
Dark Signal	< 200 e^-/s
Dark Current Doubling Temperature	5.8 °C
Linear Dynamic Range	64.4 dB
Linearity Error at 12°C	+/- 10%
Charge Transfer Efficiency	0.999995
Blooming Protection (1ms integration time)	1000x saturation exposure
Maximum Data Rate	28 MHz
Package	32-pin CERDIP, 0.070" pin spacing
Cover Glass	Clear or AR coated, 2sides

Parameters above are specified at T = 60 °C and a data rate of 28 MHz unless otherwise noted

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ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0827	KAF- 8300-AAB-CB-AA	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade	KAF-8300XE [Serial Number]
4H0828	KAF- 8300-AAB-CB-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Grade	
4H0927	KAF- 8300-AXC-CB-AA	Monochrome, Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade	KAF-8300-AXC [Serial Number]
4H0928	KAF- 8300-AXC-CB-AE	Monochrome, Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Grade	
4H0929	KAF- 8300-AXC-CP-AA	Monochrome, Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass (no coatings), Standard Grade	KAF-8300-AXC [Serial Number]
4H0930	KAF- 8300- AXC-CP-AE	Monochrome, Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass (no coatings), Engineering Grade	
4H0944	KAF- 8300-AXC-CD-AA	Monochrome, Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Standard Grade	KAF-8300-AXC [Serial Number]
4H0945	KAF- 8300- AXC-CD-AE	Monochrome, Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Grade	
4H0469	KAF- 8300-CXB-CB-AA-Offset	Color (Bayer RGB), Special Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Standard Grade, Offset	KAF-8300CE [Serial Number]
4H0468	KAF- 8300-CXB-CB-AE-Offset	Color (Bayer RGB), Special Microlens, CERDIP Package (sidebrazed), Clear Cover Glass (no coatings), Engineering Grade, Offset	
4H0471	KEK-4H0471-KAF- 8300-12-28	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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