



Summary Specification

KLI-2113 Image Sensor

DESCRIPTION

The KLI-2113 Image Sensor is a high dynamic range, multispectral, linear CCD image sensor ideally suited for demanding color scanner applications.

The imager consists of three parallel 2098-element photodiode arrays—one for each primary color. The KLI-2113 sensor offers high sensitivity, a high data rate, low noise, and negligible lag. Independent exposure control for each channel allows color balancing at the front end. CMOS-compatible 5 V clocks, and single 12 V DC supply are all that are required to drive the KLI-2113 sensor, simplifying the design of interface electronics.

FEATURES

- High Resolution
- Wide Dynamic Range
- High Sensitivity
- High Operating Speed
- High Charge Transfer Efficiency
- No Image Lag
- Electronic Exposure Control
- Pixel Summing Capability
- Up to 2.0V peak-peak Output
- 5.0V Clock Inputs
- Two-Phase Register Clocking
- On-chip Dark Reference

APPLICATIONS

- Digitization
- Machine Vision
- Mapping/Aerial
- Photography



| Parameter | Typical Value |
|---|---|
| Architecture | 3 Channel, RGB Tri-linear CCD |
| Pixels Count | 2098 x 3 |
| Pixel Size | 14 μm (H) x 14 μm (V) |
| Pixel Pitch | 14 μm |
| Inter-Array Spacing | 112 μm (8 lines effective) |
| Imager Size | 29.37 mm (H) x 0.24 mm (V) |
| Saturation Signal | 170,000 electrons |
| Dynamic Range | 76 dB |
| Responsivity (Wavelength = 460, 540, 650 nm) | 25, 32, 50 $\text{V}/\mu\text{J}/\text{cm}^2$ |
| Output Sensitivity | 11.5 $\mu\text{V}/\text{electron}$ |
| Dark Current | 0.02 pA/pixel |
| Dark Current Doubling Rate | 9 $^{\circ}\text{C}$ |
| Charge Transfer Efficiency | 0.99999/Transfer |
| Photoresponse Non-uniformity | 5% Peak-Peak |
| Lag (First Field) | 0.6% |
| Maximum Data Rate | 20 MHz/Channel |
| Package | CERDIP (Sidebrazed, CuW) |
| Cover Glass | AR coated, 2 sides |

Parameters above are specified at T = 25 $^{\circ}\text{C}$ and 2 MHz clock rates unless otherwise noted.



Ordering Information

| Catalog Number | Product Name | Description | Marking Code |
|----------------|--------------------------|---|---------------------------------|
| 4H0602 | KLI- 2113-AAA-ER-AA | Monochrome, No Microlens, CERDIP Package (leadframe), Taped Clear Cover Glass with AR coating (2 sides), Standard Grade | KLI-2113-AAA (Serial Number) |
| 4H0605 | KLI- 2113-AAA-ER-AE | Monochrome, No Microlens, CERDIP Package (leadframe), Taped Clear Cover Glass with AR coating (2 sides), Engineering Sample | |
| 4H0601 | KLI- 2113-AAB-ED-AA | Monochrome, No Microlens, CERDIP Package (leadframe), Clear Cover Glass with AR coating (both sides), Standard Grade | KLI-2113-AAB (Serial Number) |
| 4H0604 | KLI- 2113-AAB-ED-AE | Monochrome, No Microlens, CERDIP Package (leadframe), Clear Cover Glass with AR coating (both sides), Engineering Sample | |
| 4H0600 | KLI- 2113-DAA-ED-AA | Color (RGB), No Microlens, CERDIP Package (leadframe), Clear Cover Glass with AR coating (both sides), Standard Grade | KLI-2113-DAA (Serial Number) |
| 4H0603 | KLI- 2113-DAA-ED-AE | Color (RGB), No Microlens, CERDIP Package (leadframe), Clear Cover Glass with AR coating (both sides), Engineering Sample | |
| 4H0096 | KEK-4H0096-KLI-2113-12-5 | Evaluation Board (Complete Kit) | N/A |

See Application Note *Product Naming Convention* for a full description of the naming convention used for image sensors. For reference documentation, including information on evaluation kits, please visit our web site at www.truesenseimaging.com.

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