SXGA high speed and sensitivity CMOS image sensor

**BT130A**

**Description**

BT130A is a 1.3-megapixels (Type 1/2) high speed and high sensitivity CMOS image sensor. It operates up to 1800fps with SXGA resolution and higher frame rates by using a function of windowing while keeping low temporal noise and high sensitivity. Brookman Technology’s enhanced global shutter pixel so-called “True Snapshot-PIXEL (TS-PIXEL)” is implemented. It captures every moment without motion blurs. With these further high performances, BT130A makes it possible to take a high speed video under normal fluorescent tube lighting.

**High speed and sensitivity**

![1800fps @SXGA color image](image1)

**Features**

- SXGA resolution: 1284(H) x 1028(V)
- Optical format: Type 1/2
- Active pixel area: 7.17mm(H)x5.73mm(V), 9.18mm(D)
- TS-PIXEL Global shutter
- 1800fps with SXGA resolution
- Windowing (Vertical only) with enhanced frame rate
- High sensitivity with low noise @SXGA
- Capable of slave mode with external horizontal sync. and vertical sync. signals
- On-chip 12bit high speed ADC
- Selectable analog gain
- Low power consumption (<1.5W)
- Available in color (Bayer RGB) and monochrome sensor

**Low noise and anti motion blur**

![True Snapshot-PIXEL](image2)

**Applications**

- High speed camera
- Machine vision
- Motion analysis
- Industrial imaging
- Crash test analysis
- Scientific experiment

For all product and custom CIS design inquiries, feel free to contact us below.

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**Specifications**

- Optical format: 1/2 Type
- Pixel size: 5.6μm x 5.6μm
- Total pixels: 1376(H) x 1044(V)
- Effective pixels: 1284(H) x 1028(V)
- Pixel type: Pinned 4Trs.
- Shutter: True-CDS global shutter
- Windowing [ROI]: Available (V-direction only)
- ADC resolution: 12-bit on-chip
- Frame rate: 1800fps@SXGA
- Output interface: 48-lane LVDS
- Data rate: Max. 680Mbps@lane
- Full well capacity: 16ke-
- Dynamic range: >64dB
- SNR (Max.): 41dB
- Dark noise: 10.4e-
- Sensitivity: 6.8V/lux·s (Mono)
- 3.4V/lux·s (Green)
- PRNU: 1% @ Half saturation
- Q.E.: 62% @ Mono (λ = 550nm)
- Analog gain: 1x, 2x and 4x
- Power supply: 1.8V and 3.3V
- Power consumption: <1.5W
- Package type: 241-pin µPGA
- Chroma: Monochrome and Bayer RGB
- Input clock rate: 34MHz

**Q.E. Curve**

![Q.E. Curve](image)

**Block Diagram**

![Block Diagram](image)

**Sensor Package**

![Sensor Package](image)

**Unit [mm]**

![Unit](image)

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