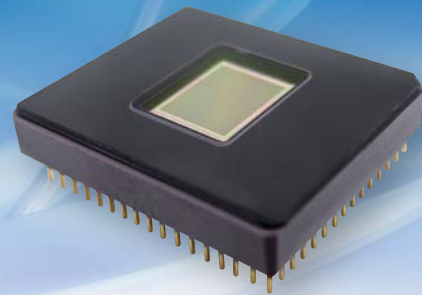




VGA ultra high speed and sensitivity CMOS image sensor

BT033A



Description

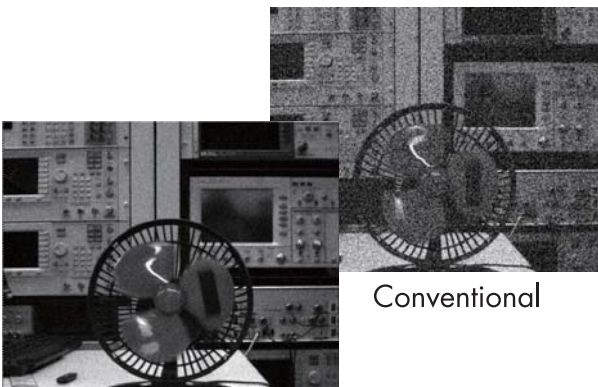
BT033A is a VGA (Type 1/2) ultra high speed and high sensitivity CMOS image sensor. It operates up to 7200fps with VGA resolution and higher frame rates by using a function of windowing while keeping low noise and very high sensitivity. Brookman Technology's enhanced global shutter pixel so-called "True Snapshot-PIXEL(TS-PIXEL)" is implemented. It captures every moment without motion blurs. With these further high performances, BT033A makes it possible to take an ultra high speed video under normal fluorescent tube lighting.

Ultra high speed and sensitivity



7200fps @VGA color image

Low noise and anti motion blur



Conventional

True Snapshot-PIXEL

Features

- VGA resolution: 644(H) x 484(V)
- Optical format: Type 1/2
- Active pixel area: 7.17mm(H)x5.73mm(V), 9.18mm(D)
- TS-PIXEL Global shutter
- 7200fps with VGA resolution
- Windowing (Vertical only) with enhanced frame rate
- 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

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.

Brookman Technology, Inc. 125 Daikumachi, Nakaku, Hamamatsu, 430-0936 Japan

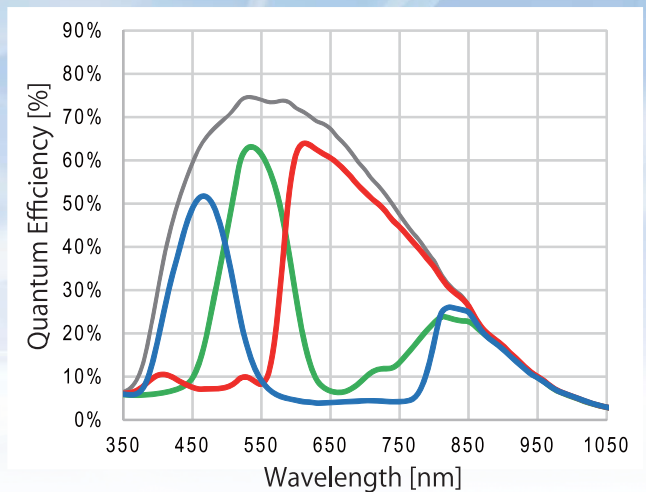
Website:<http://brookmantech.com> Tel: +81-53-482-7741 Email:bt_request@brookmantech.com



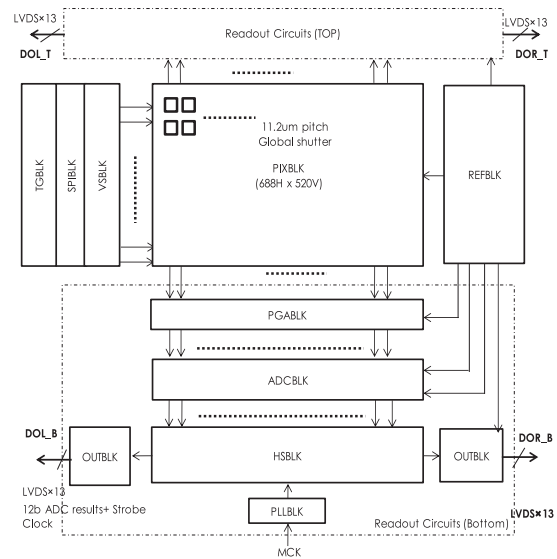
Specifications

Optical format	1/2 Type
Pixel size	11.2µm x 11.2µm
Total pixels	688(H) x 520(V)
Effective pixels	644(H) x 484(V)
Pixel type	Pinned 4Trs.
Shutter	True-CDS global shutter
Windowing(ROI)	Available(V-direction only)
ADC resolution	12-bit on-chip
Frame rate	7200fps@VGA
Output interface	48-lane LVDS
Data rate	Max. 680Mbps@lane
Full well capacity	14ke-
Dynamic range	>63dB
SNR(Max.)	40dB
Dark noise	7.6e-
Sensitivity	38V/lux·s (Mono)
	20V/lux·s (Green)
PRNU	1%@Half Saturation
Q.E.	74%@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

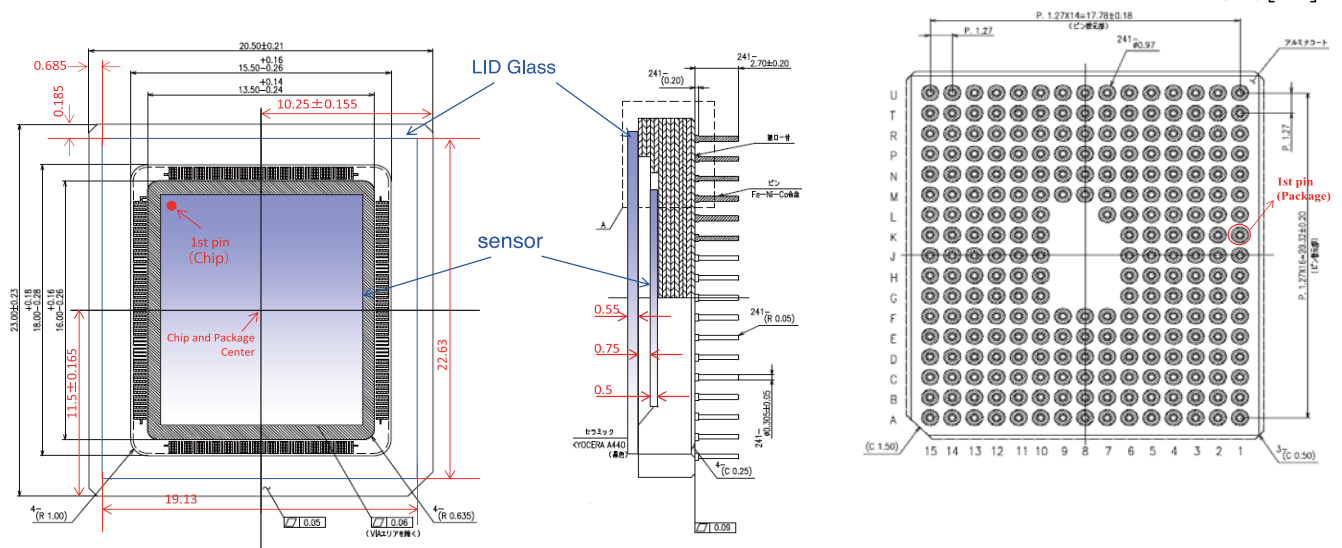
Q.E. Curve



Block Diagram



Sensor Package



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