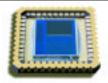


VGA-format CMOS Camera-On-a-Chip For Multimedia Applications



PHOTOBIT sets the standard in CMOS image capture. Our patented "camera-on-a-chip" technology ensures image excellence, from photons to digital bits. Even in difficult light. Photobit is the choice of OEM leaders who demand low power usage and want fewer parts in their end products —whether they're building advanced business tools, meeting defense needs, or helping children learn. From compact formats to multi-megapixel resolutions, Photobit image sensors deliver on every promise of CMOSsimpler board designs, longer running times, greater reliability, and miniaturization.



135 North Los Robles Avenue, 7th Floor Pasadena, California 91101 U.S.A. TEL: (626) 683-2200 FAX: (626) 683-2220 WEB: WWW.photobit.com E-MAIL: info@photobit.com

- VGA-format pixel array (640H x 480V)
- Robust digital interface
- Extensive programmability
- 0-39 frames per second
- On-chip TrueBit® Noise Cancellation
- Photobit TrueColor™ Image Fidelity
- 8-bit color or monochrome digital video

PB-300

THE PHOTOBIT PB-300 is a CMOS active-pixel image sensor for high-end PC videoconferencing, small-format digital still cameras, and other multimedia applications. It outputs full-frame 8-bit digital video at up to 39 frames per second in VGA resolution (640H x 480V).

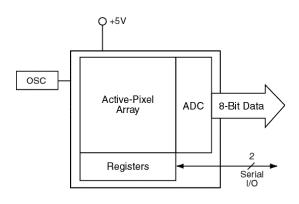
On-chip integration of camera functions and low power consumption give the sensor a significant system advantage over CCDs, while Photobits exclusive TrueBit[®] Noise Cancellation and TrueColor[™] Image Fidelity ensure superior performance over other CMOS offerings. The PB-300 provides electronic pan, tilt and zoom; auto-exposure; and extensive programmability via a robust industry-standard digital interface. It is available in color or monochrome.

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Applications

High-end PC videoconferencing, small-format digital still cameras, video cell phones, lap-top computers, and hand-held business tools are among the many multimedia applications for the PB-300 CMOS Camera-On-a-Chip. By combining the low-power benefit of Photobit's patented active-pixel technology with the versatility of the VGA format, the PB-300 is ideally suited to portable or battery-powered products that require excellent image quality. The sensor features Photobits patented architecture—encompassing the capture of photons, pixel readout, gain, analog-to-digital conversion, and industry-standard digital interface. Its on-chip control registers can be programmed for any given application.





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Specification

Array Format (4:3)	
Total Optical and VGA ref	
Pixel Size and Type	.7.9 µm x 7.9 µm active-pixel photodiode
Optical Format	.1/3 inch
Frame Rate	.0-39 frames per second
Maximum Data Rate	.24 megabytes per second (master clock 24 MHz)
Power	.300 mW at maximum data rate
Digital SNR @ 1 lux	.>20 dB (10:1) for green pixels, faceplate illuminance at 30 Hz
Digital Responsivity	.(at Gain of 10 and ADC reference of +2.5V)
	Red: 950 bits per lux-second Green: 650 bits per lux-second Blue: 750 bits per lux-second
Internal Intra-Scene Dynamic Range	.75 dB
Supply Voltage	.+5.0V
Supply Current	.60 mA (nominal)
Operating Temperature	.0°C to +70°C
Output	.8 bit-color (SRGB) or monochrome digital video
Shutter	.Electronic rolling snap (ERS)
CDS	.On-chip
ADC	.On-chip 8-bit column parallel
Auto-Exposure	.On-chip, with manual override
Package	.44-pin CLCC
Timing and Control	.On-chip
Programmable Controls	 Window size and location Signal gain Exposure parameters Auto-exposure parameters ADC reference ADC calibration ADC test mode

SALES OFFICE:

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Frame rateDAC biases