JAL-KA4-OV2640

OmniVision OV2640 DVP Parallel Schnittstelle Fixer Fokus 2MP Kameramodul

Kameramodul Nr.	JAL-KA4-OV2640
Bildsensor	OV2640
EFL	3.6 mm
F.NO	2.8
Pixel	1600 X 1200
Blickwinkel	66.4°
Linsentyp	1/4 Zoll
Objektivabmessungen	8.00 x 8.00 x 4.85 mm
Modulgröße	50.00 x 12.50 mm
Modultyp	Fixer Fokus
Schnittstelle	DVP Parallel

Gegenstecker Teile-Nr. FH12-24S-0.5SH

Gegenstecker auf der Hauptplatine. Separat erhältlich.

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OV2640 Color CMOS UXGA (2.0 MegaPixel) CAMERACHIP™ with OmniPixel2™ Technology

General Description

The OV2640 CAMERACHIP™ is a low voltage CMOS image sensor that provides the full functionality of a single-chip UXGA (1632x1232) camera and image processor in a small footprint package. The OV2640 provides full-frame, sub-sampled, scaled or windowed 8-bit/10-bit images in a wide range of formats, controlled through the Serial Camera Control Bus (SCCB) interface.

This product has an image array capable of operating at up to 15 frames per second (fps) in UXGA resolution with complete user control over image quality, formatting and output data transfer. All integrated image processing functions, including exposure control, gamma, white balance, color saturation, hue control, white pixel canceling, noise canceling, and more, are also programmable through the SCCB interface. The OV2640 also includes a compression engine for increased processing power. In addition, OmniVision CAMERACHIPS use proprietary sensor technology to improve image quality by reducing or eliminating common lighting/electrical sources of image contamination, such as fixed pattern noise, smearing, etc., to produce a clean, fully stable color image.

Note: The OV2640 uses a lead-free package.

Features

- High sensitivity for low-light operation
- Low operating voltage for embedded portable apps
- Standard SCCB interface
- Integrated compression engine
- Output support for Raw RGB, RGB (RGB565/555), GRB422, YUV (422/420) and YCbCr (4:2:2) formats
- Supports image sizes: UXGA, SXGA, SVGA, and any size scaling down from SXGA to 40x30
- VarioPixel® method for sub-sampling
- Automatic image control functions including Automatic Exposure Control (AEC), Automatic Gain Control (AGC), Automatic White Balance (AWB), Automatic Band Filter (ABF), and Automatic Black-Level Calibration (ABLC)
- Image quality controls including color saturation, gamma, sharpness (edge enhancement), lens correction, white pixel canceling, noise canceling, and 50/60 Hz luminance detection
- Line optical black level output capability
- Video or snapshot operation
- Zooming, panning, and windowing functions
- Internal/external frame synchronization
- Variable frame rate control
- Supports LED and flash strobe mode
- Supports scaling
- Embedded microcontroller

Ordering Information

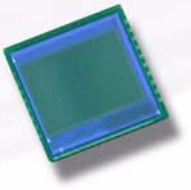
Product	Package
OV02640-VL9A (Color, Lead-free)	38-pin CSP2

Applications

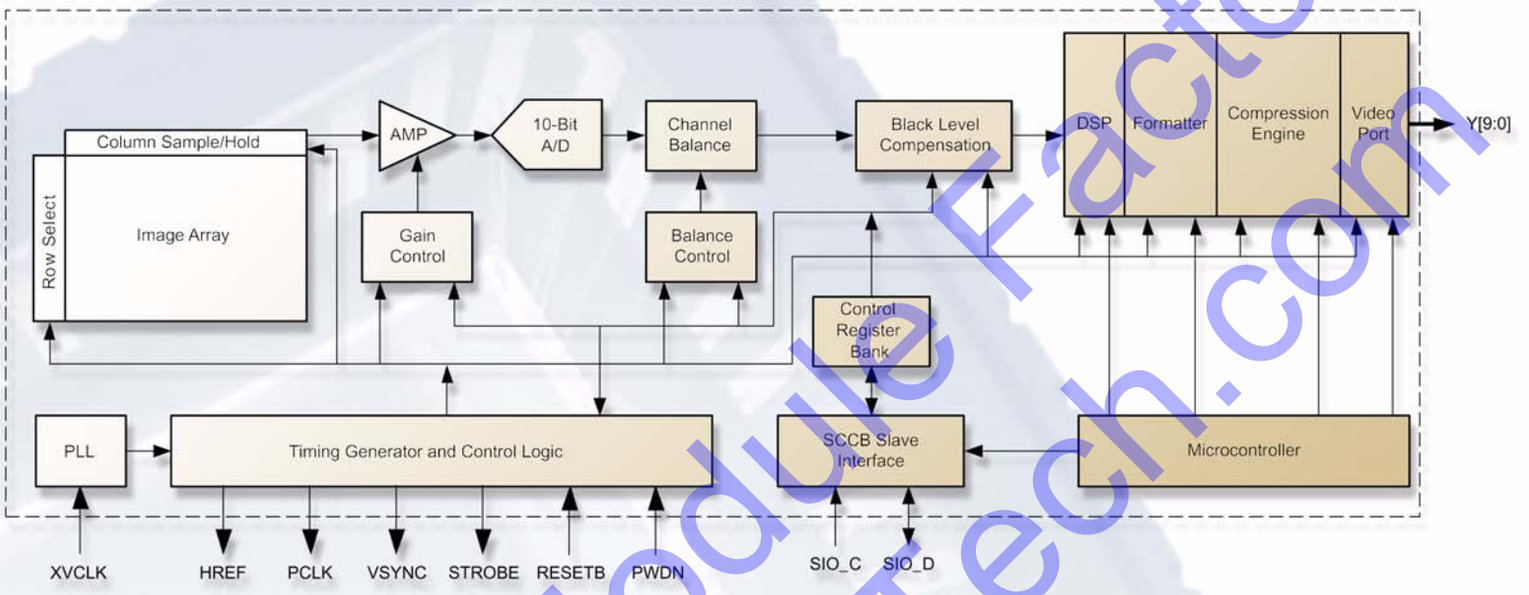
- Cellular and Camera Phones
- Toys
- PC Multimedia
- Digital Still Cameras

Key Specifications

Array Size	**UXGA**	1600 x 1200
Power Supply	**Core**	1.2VDC ± 5%
	Analog	2.5 ~ 3.0VDC
	I/O	1.7V to 3.3V
Power Requirements	**Active**	TBD
	Preview (CIF)	TBD
	Standby	TBD
Temperature Range	**Operation**	-30°C to 70°C
	Stable Image	0°C to 50°C
Output Formats (8-bit)		• YUV(422/420)/YCbCr422 • RGB565/555 • 8-bit compressed data • 8-/10-bit Raw RGB data
Lens Size		1/4"
Chief Ray Angle		25° non-linear
Maximum Image Transfer Rate	**UXGA/SXGA**	15 fps
	SVGA	30 fps
	CIF	60 fps
Sensitivity		0.6 V/Lux-sec
S/N Ratio		40 dB
Dynamic Range		50 dB
Scan Mode		Progressive
Maximum Exposure Interval		1247 x t_{ROW}
Gamma Correction		Programmable
Pixel Size		2.2 µm x 2.2 µm
Dark Current		15 mV/s at 60°C
Well Capacity		12 Ke
Fixed Pattern Noise		<1% of $V_{PEAK-TO-PEAK}$
Image Area		3590 µm x 2684 µm
Package Dimensions		5725 µm x 6285 µm



Functional Block Diagram



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