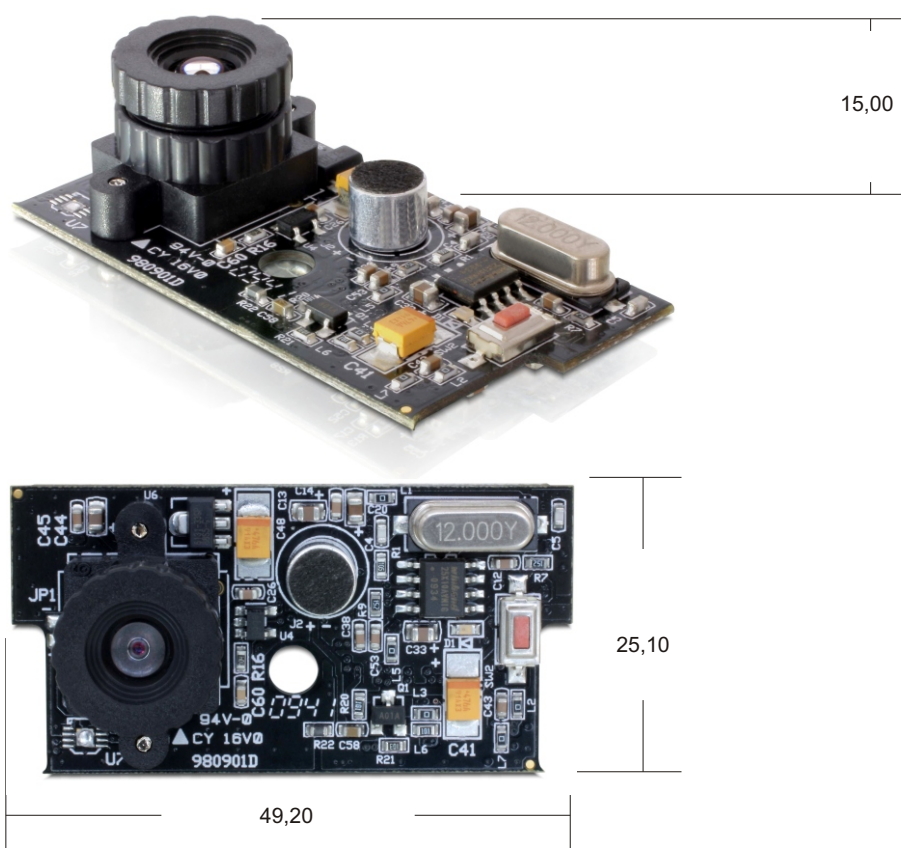


Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel



date: 03/25/2009

Specification

95851

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Contents

1. description of PC camera
2. physical specification
3. Feature
4. specification
5. operating range
6. power dissipation
7. pin definition
8. USB PC camera system block diagram

Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

1. Description of PC Camera

95851 is all USB 2.0 CMOS sensor PC camera that support UXGA (1600x1200) resolution. This PC camera integrates Omni Vision OV2640 CMOS sensor, SONIX SN9C255 controller and E-PIN optical lens assembly. It is of very low power consumption and miniature size, therefore ideally to be used on PC or notebook device. Standard USB video class device (UVC), No driver needed. 95851 adopts a high-sensitive microphone, provides clear audio quality, and lets you enjoy the easy-to-talk on-line experience.



2. Physical specification

connector type:

1.25mm pitch connector, SMT, Aces electronic Co. Ltd.:

85204-05

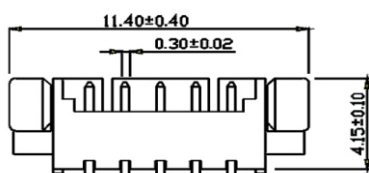
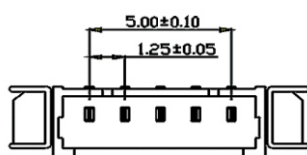
for connecting with:

terminal

85206-T-X

housing

85206-0500-xxx



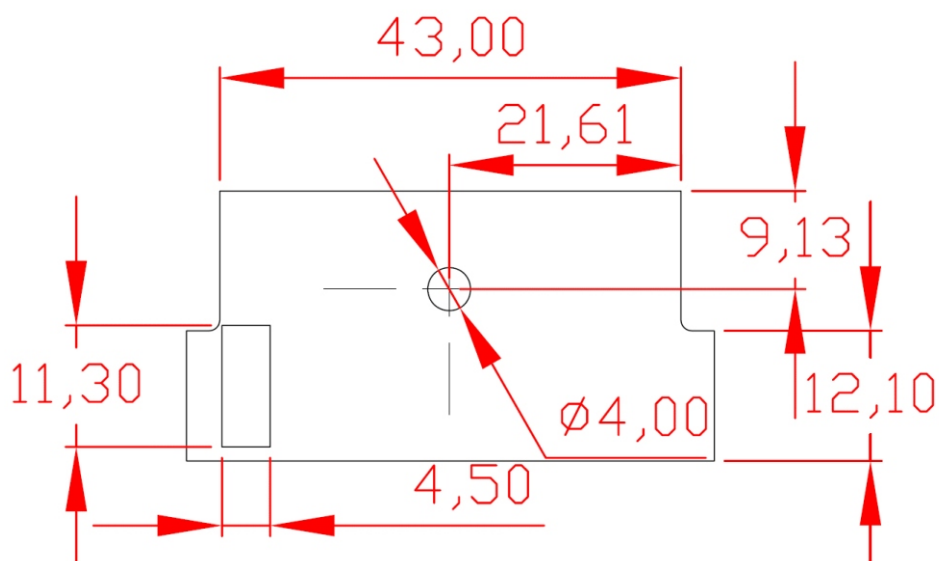
Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

The enclosure has the following physical dimensions:

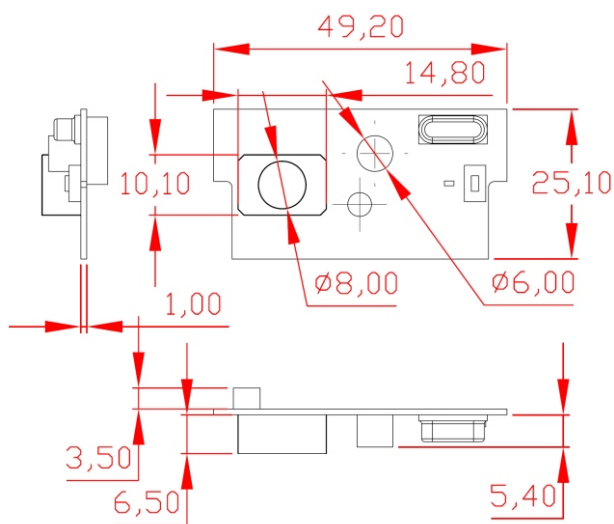
length: 25.10 mm
width: 49.20 mm
height: 15.00 mm
a hole Ø: 04.00 mm



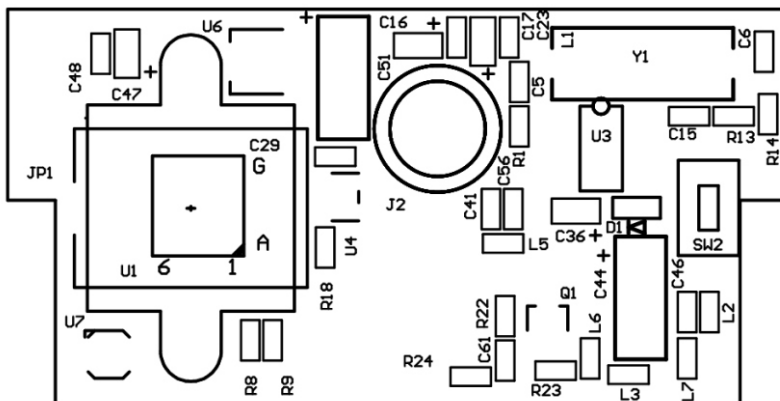
Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel



PCB Board
A Side:

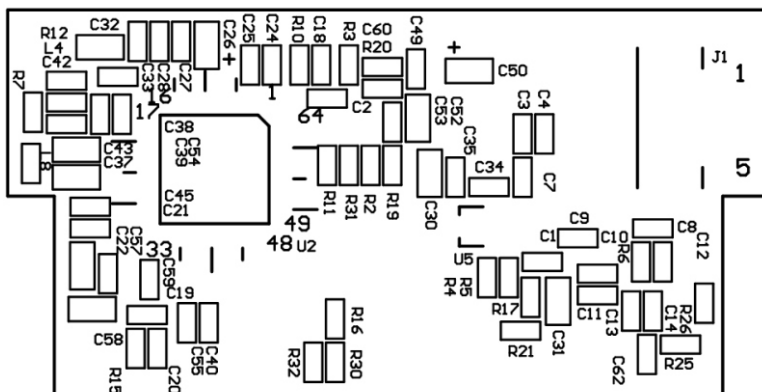


Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

B Side:



3. Features

OmniVision OV2640 CMOS sensor

General Description

The OV2640 CAMERACHIP™ image sensor is a low voltage CMOS device 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 required 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 CAMERACHIP sensors 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.

Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

Key specifications

array size	UXGA	1600 x 1200
power requirements	activ	125 mW (for 15 fps, UXGA YUY mode)
		140 mW (for 15 fps, UXGA compressed mode)
	standby	900 µA
temperature range	stable image	0°C - 50°C
	output formats (8bit)	-YUV (422/420) YCbCr422
		-RGB565/555
		-8bit compressed data
		-8-/10-bit RAW RGB data
	lens size	1/4"
	chief ray angel	25° non-linear
maximum	UXGA/SXGA	15 fps
image	SVGA	30 fps
transfer rate	CIF	60 fps
	sensitivity	0,6V /Lux-sec
	S/N ratio	40 dB
	dynamic range	50 dB
	scan mode	progressive
	maximum exposure interval	1247 x tROW
	gamma correction	programmable
	pixel size	2,2 µm x 2,2µm
	dark current	15 mV/s at 60°C
	well capacity	12 Ke
	fixed pattern noise	<1% of VPEAK-TO-PEAK
	image area	3590 µm x 2684 µm

Specification

95851

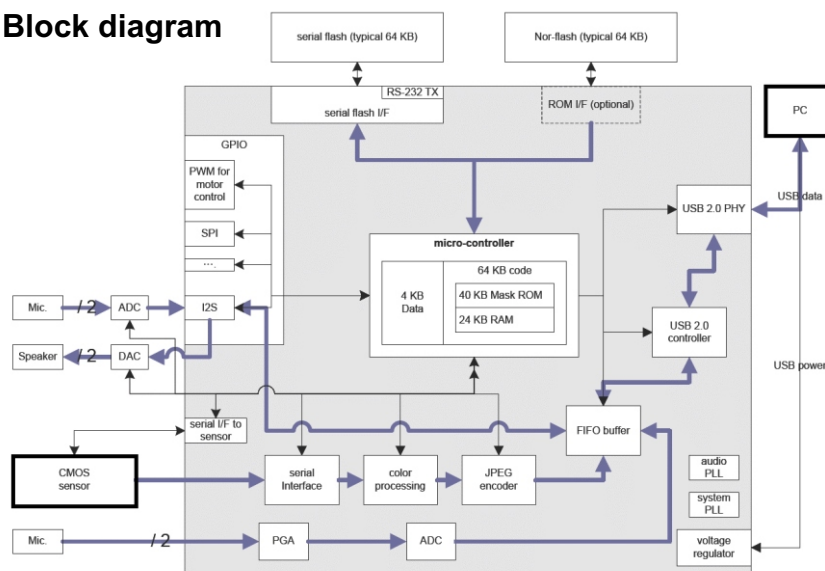
Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

SONiX SN9C255 controller

General description

SN9C255x is a USB 2.0 high-speed (HS) and full-speed (FS) compatible PC camera controller. The built-in extreme low-power transceiver provides the superior compatibility with various USB host and the best quality for image applications. It is fully compliant with USB video, audio and HID class. With the integrated sensor interface and color processing engine, it can support most available CMOS sensors that range from VGA to UXGA. The high performance JPEG engine makes the smooth-video to be realized. At most two built-in ADCs provide high quality audio input and 2 more channels are available via I2S interface for advanced multi-media application. SN9C255x is controlled by the embedded micro-controller, and the statistics for 3A (AE / AWB / AF) are built-in. The flexible architecture consists of mask ROM, internal RAM and external serial-flash which can store the customized codes and parameters. It's also possible to store all the program code in the external flash memory for special design purpose. With the highly-integrated firmware architecture and the developing kit provided by SONiX, it's easy for 3rd party to fulfill any specific feature. There are several package types for SN9C255x to satisfy different requirements such as compact size, rich function and more GPIO.

Block diagram



Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

E-PIN optical lens

1. sensor size : 1/4"
2. construction: 3 plastic (All ASP)
3. paraxial EFL: 4.02 mm
4. f-number: f/2.8
5. effective image diameter : Φ 5.27 mm (Φ 5.47 mm max.)
6. D_FOV: 57,97 deg @ Y=2,241 mm,
66,00 deg @ Y=2,635 mm
- 7 H_FOV: 47,88 deg @ Y=1,795 mm,
54,00 deg @ Y=2,067 mm
8. TV distortion: < 0.15%
9. chief ray angle: < 23 deg
10. relative illumination: 52.8% @ Y=2.635 mm
11. BFL(INF.): 1.729 mm (with C/G+IR=0.4+0.3=0.7mm)
12. barrel size: M7 X P0.35
13. total length: 5.368 mm
14. FBL: 1.167 mm
15. field of view (diagonal): 66.82°

4. Specification

- mechanical: 25.10 X 49.20 X 15.00 mm
- sensor type : UXGA (1600x1200) CMOS sensor
- max resolution : UXGA 1600X1200
- max snapshot resolution : QSXGA 2560x2048 (driver)
- interface: USB 2.0 and USB 1.1 compatible
- frame rate: up to 30 fps@VGA, 9 fps@SVGA, 6 fps@UXGA
- lens: focus type : manual focus
- f/: 2.8
- view of angle : 66.82°
- focal distance : 4cm~infinite
- exposure control : auto
- white balance : auto
- image format : YUY2, RGB24, I420, MJPG

Specification

95851

Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

System requirement:

platform support : Microsoft Windows Vista 32bit / 64bit Microsoft Windows XP 32bit(SP2) / 64bit Mac -OS X 10.4.8 or later Linux with UVC driver (open source available at <http://linux-uvc.berlios.de/>)
processor: Intel Pentium P4 1.4Ghz or above CPU
system RAM: minimum 128MB RAM
USB port: USB 2.0 port with 500mA power supply

5. Operating range

rating voltage: 5V
operating temperature range: 5~40 C°
relative humidity during operating: 20%~80%

6. Power dissipation:

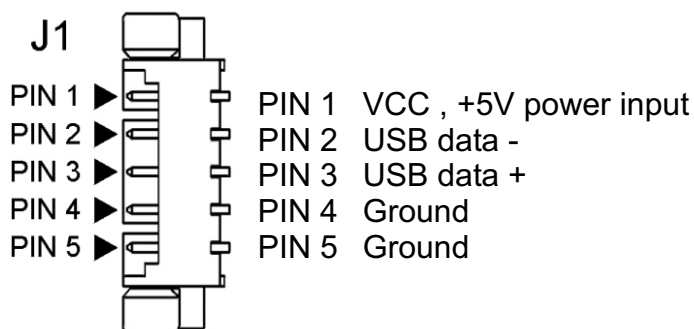
active (typical)	250mA
standby	120mA

Specification

95851

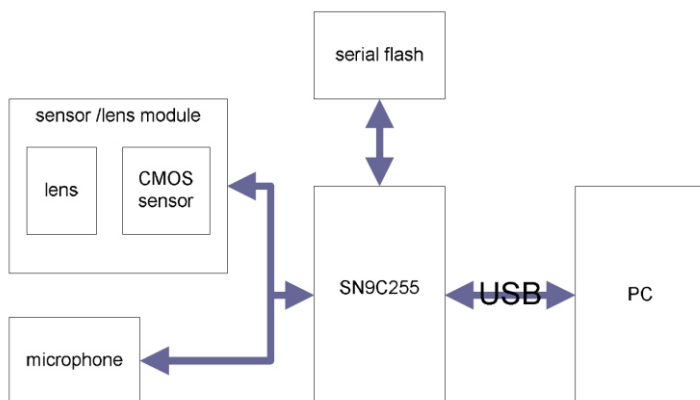
Delock industry USB 2.0 CMOS cameramodule 2,0 megapixel

7. PIN definition & cable



Compatible cable: **A95875**

8. USB PC camera system block diagram



CMOS sensor module is usually used while microphone is optional. Serial flash is used to store all the customized codes and data. This kind of configuration is suitable for both standalone PC camera and NB built-in camera module,