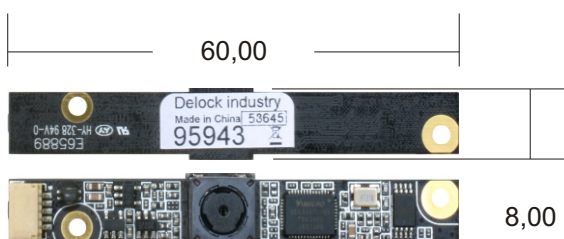
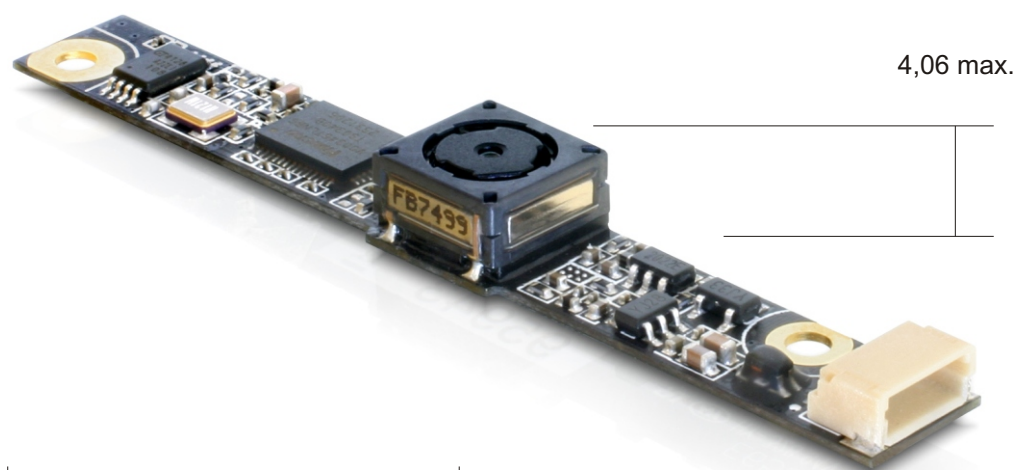


# Specification

## 95943

Delock USB 2.0 camera module 5,04 Mpix

EAN: 4043619959433



original size

**Edition: 05/2012**

# Specification

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### Specification

#### Main parameter

Nr.	Item	Specification
1	EFL	3.29
2	F.NO	2.8
3	View angle	69°±3°(Diag)
4	Image quality	1200LW/PH
5	Focusing range	10cm - infinite (AT=0.8M)
6	Chip type	SOC5140
7	Chip size	3,629 x 2,722 mm
7	Array size	2592×1944 pixel
8	Lens size	1/4 inch

#### Features

Automatic image control functions including: Automatic Exposure Control (AEC); Automatic White Balance (AWB) and Automatic Black-Level Calibration (ABLC)

#### PIN Description

Pin #	Signal name
1	USB D+
2	USB D-
3	USB 5V
4	NC
5	GNC

#### USB Camera Module

Maximum Frame Rate	QSXGA	QXGA	UXGA	SXGA	SVGA	VGA	CIF	QVGA	QCIF
YUY2	2,5fps	2,5fps	5fps	7.5fps	20fps	30fps	30fps	30fps	30fps
MJPEG**	7,5fps	7,5fps	7,5fps	7,5fps	30fps	30fps	30fps	30fps	30fps

Note:8-bit and 10-bit Bayer raw data formats are also supported by VC0346TLNBC when using the Vimicro UVC driver.  
\*\* MJPEG sensors are supported by VC0346TLNBC and it will pass the MJPEG data to host NB/PC without any other processing and compression.

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### Support for various MS Windows OS

32-bit, 64-bit Windows, Windows2000/XP/Vista/Win7

### Applications

- IPCs, Tablets, Notebook cameras, Cellular and picture phones,
- Toys, PDAS, PC Multimedia, Digital still cameras

For a short test of your camera module, we recommend the program Amcap.exe from Microsoft. You will find this program in the DirectX 9 SDK under <http://www.microsoft.com/en-us/download/details.aspx?id=19597>.

### Component specification

#### Sensor specification

Lens Size	1/4 "
Active Array size	2592 × 1944
Power Supply	Analog = 2,5-3,1 V; I/O = 1,7-1,9 V
Power Requirements	550 mW
Standby	10 microampere
Output Format (8bit)	YUV 422/YCbCr422, RGB565, CCIR656, Raw RGB Data
Video Format	QSVGA
Image Processing	Automatic image control functions including: Automatic Exposure Control (AEC); Automatic White Balance (AWB) and Automatic Black-Level Calibration (ABLC)
Interface	Serial interface (SCCB)
Sensitivity	0,96 V/ (Lux.sec)
S/N Ratio	34,7 dB
Dynamic Range	60 dB
Pixel Size	1,4 micrometer × 1,4 micrometer
Image Area	1148 micrometer × 861 micrometer

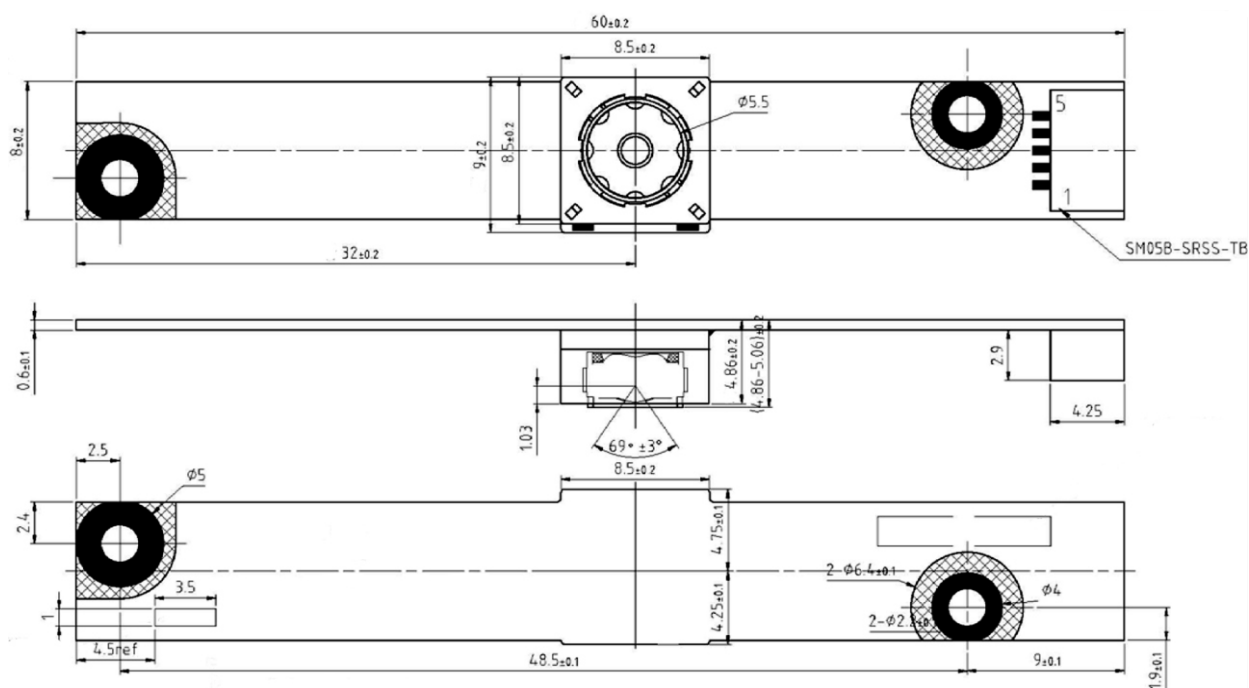
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### Mechanical drawing



# Specification

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### Camera lens specification

No.	Item	Specification
1	Lens Size	1/4 Inch
2	Lens Construction	4 Plastic + 1 Filter
3	Focal Length	3,29 mm
4	F/NO.	2,8
5	Field of View Angle (Diagonal)	69°±3°
6	Distortion	<1%
7	Focus Distance	0,4 m
8	Focusing Range	0,2 m - infinite
9	Image Quality	1200 LW/PH

### The key hardware

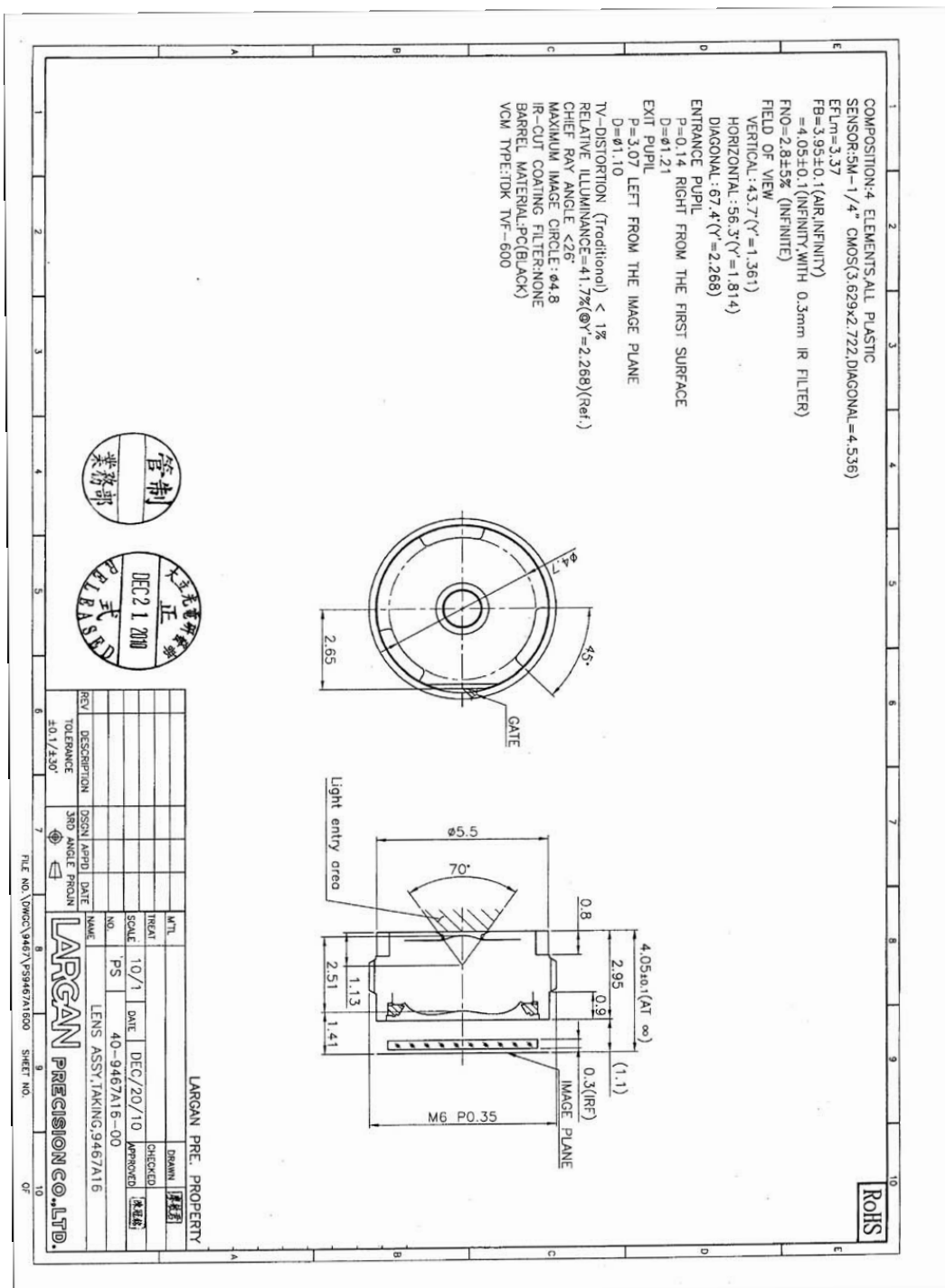
NO.	Item	Name	Provider
1	Motor	TVF-600	TDK
2	Sensor	MT9P111	Aptina
3	Lens	SOC5140	LARGAN
4	Connector	SM05B-SRSS-TB	JST

# Specification

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# Specification

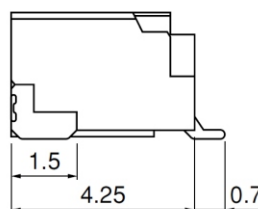
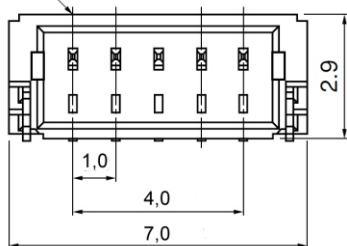
## 95943

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### Pin assignment

Circuit No.1



SM05B-SRSS-TB vendor JST

Pin #	Signal name
1	USB D+
2	USB D-
3	USB 5V
4	NC
5	GNC

### Optional cable:

A95843 10cm

A95878 50cm

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### DSP

VC0346 is a UVC device that will work with Operating Systems that supports the UVC standard, such as Windows XP (with Service Pack 2) and Vista, without the need to install the Vimicro driver. However to provide for additional powerful functions such as better video quality and other special image effects, the Vimicro UVC driver needs to be installed for these functions to work.

The following tables show the main video operation modes that VC0346 supports:

### Video capability

USB 2.0 High Speed

Maximum Frame Rate	QSXGA	QXGA	UXGA	SXGA	SVGA	VGA	CIF	QVGA	QCIF
YUY2	2,5fps	2,5fps	5fps	7.5fps	30fps	30fps	30fps	30fps	30fps
RGB24*	n/a	n/a	5fps	7,5fps	30fps	30fps	30fps	30fps	30fps
MJPEG**	7,5fps	10fps	15fps	20fps	30fps	30fps	30fps	30fps	30fps

Note:8-bit and 10-bit Bayer raw data formats are also supported by VC0346TLNBC when using the Vimicro UVC driver.

\* RGB24 data formats is only supported when using the Vimicro UVC driver.

\*\* MJPEG sensors are supported by VC0346TLNBC and it w



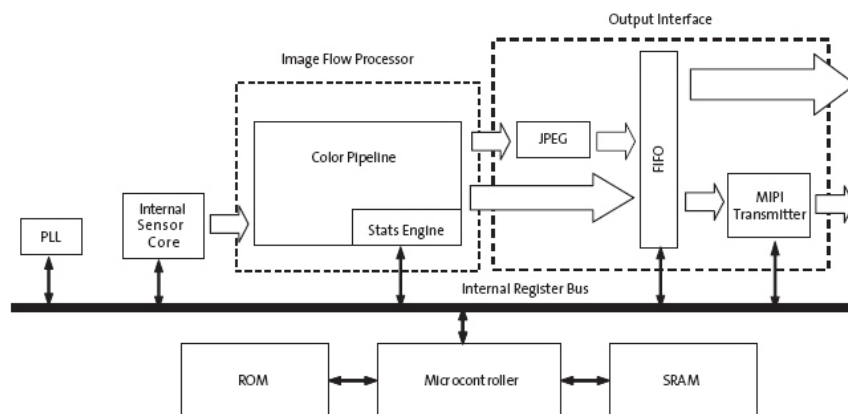
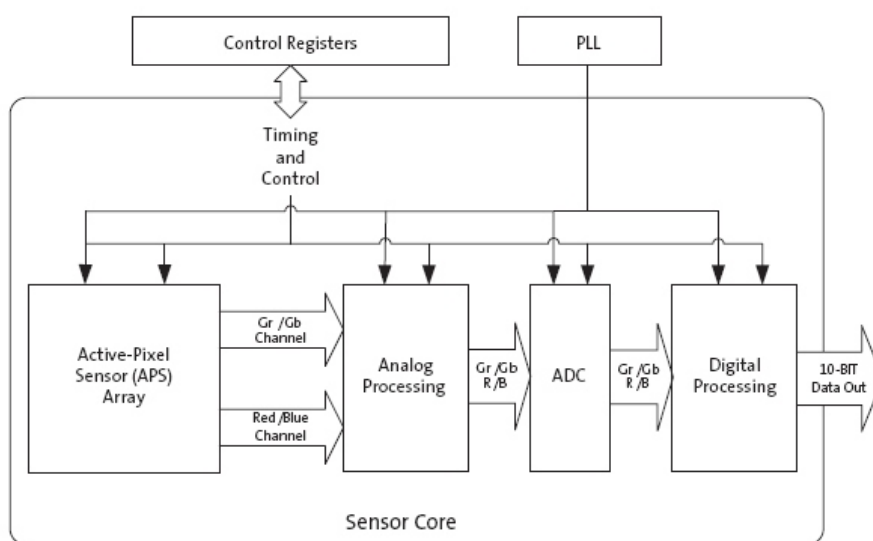
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### Sensor Core Block Diagram



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### Reliability Test

No.	Test Item	Test Conditions	Judge Standard
1	Constant Temperate and Humidity Storage Test	Temperate : $60\pm3^{\circ}\text{C}$ ; Humidity : $90\pm3\%\text{RH}$ ; Test duration: 72H	No image distort and good color rendition.
2	High Temperate Storage Test	Temperate : $80\pm3^{\circ}\text{C}$ ; Test duration : 72H	No image distort and good color rendition.
3	Low Temperate Storage Test	Temperate : $-40\pm3^{\circ}\text{C}$ ; Test duration: 72H	No image distort and good color rendition.
4	High and Low Temperate Shock Test	High Temp. : $80 \pm 3^{\circ}\text{C}$ ; Low Temp. : $-40 \pm 3^{\circ}\text{C}$ ; Each Place Time : 30min ; Number of Cycles : 30	No image distort and good color rendition.
5	High Temperate Function Test	Temperate : $60\pm3^{\circ}\text{C}$ ; Test Duration : 48H ; Normal Work Voltage	No image distort and good color rendition.
6	Low Temperate Function Test	Temperate : $-10\pm3^{\circ}\text{C}$ ; Test Duration : 48H ; Normal Work Voltage	No image distort and good color rendition.
7	Constant Temperate and Humidity Function Test	Temperate : $55\pm3^{\circ}\text{C}$ ; Humidity : $85\%\text{RH}$ ; Test Duration : 48H ; Normal Work Voltage	No image distort and good color rendition.
8	Vibration Test	Frequency Range : 10-55-10Hz ; Amplitude : 2mm ; Test All 3 Axes (X, Y, Z) ; Duration 30min for Each Axis	No image distort and good color rendition.
9	ESD TEST	12KV Contact Discharge 8KV Air Discharge 10 Times for Second	No image distort and good color rendition.
10	Package Test	Floor : Concrete ; Height : 100cm ; Positions : 1corner, 3edge, 6 Surface ; Each Surface Drop 3 Times	No image distort and good color rendition.

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### 10. Precautions

#### 10.1. Storage and Operating Conditions

To keep the product and packaging material in good condition, care must be taken to control temperature and humidity in the storage area.

Recommended conditions:

Ambient temperature: 0 ~ 40°C

Humidity: 30 ~ 70%RH

No rapid change on temperature and humidity.

The products listed in this catalog are not designed for use under the following conditions. Storage and/or usage under following conditions is prohibited.

- 1). Exposure to corrosive gas such as chlorine, hydrogen sulfide, ammonia, sulfur dioxide, nitrogen oxide, etc.
- 2). Exposure to direct sunlight.
- 3). Exposure to dust.
- 4). Exposure to excessive moisture or wet locations.
- 5). Exposure to salt water or sea breezes.
- 6). Exposure to strong static electricity or electromagnetic waves.

#### 10.2. Transportation and Handling

- 1). Minimize any mechanical vibration or shock and avoid dropping of the product during transportation or dropping the product that contains the substrate.
- 2). Since the application of static electricity or over voltage may cause defect in the product or deterioration of its reliability, caution must be taken against exposure to any static electricity generated by electrified items such as workbenches, soldering irons, tools, carrying containers, etc.
- 3). Caution shall be taken to avoid overstress to the product.

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### **WEEE note**

The WEEE (Waste Electrical and Electronic Equipment) directive, which came into force on 13 February 2003, lead to a comprehensive change in the disposal of used electric products. It is the main purpose of this directive to avoid electric waste products (WEEE), while simultaneously promoting the re-usage, recycling and other forms of reconditioning in order to reduce the amount of waste. The WEEE logo on the product and the package shows that the product should not be disposed of with regular garbage. You are responsible for disposing all used electric and electronic devices at the corresponding collection sites. The separate collection and meaningful re-usage of electronic waste helps to deal with natural resources more economically. In addition, re-using electronic waste contributes to the preservation of the environment and human health. Additional information regarding the disposal of electric and electronic devices, their re-usage and the collection sites can be found at your local authorities, disposal companies, specialist shops and the manufacturer of the product.

### **RoHS conformity**

This product complies with the directive 2002/95/EC of the European parliament and the council from January 27th 2003 concerning the restricted use of dangerous substances in electrical and electronical devices (RoHS) as well as its modification. This product complies with the directive 2011/65/EU which becomes effective from January 3rd 2013.

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### **Support Delock**

If you have further questions, please contact our customer support  
[support@delock.de](mailto:support@delock.de).

You can find current product information on our homepage: [www.delock.com](http://www.delock.com).

### **Final clause**

Information and data contained in this manual are subject to change without notice in advance. Errors and misprints excepted.

### **Copyright**

No part of this user manual may be reproduced, or transmitted for any purpose, regardless in which way or by which means, electronically or mechanically, without explicit written approval of Delock.

Edition: 05/2012

EU Import: Tragant Handels- und Beteiligungs GmbH  
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