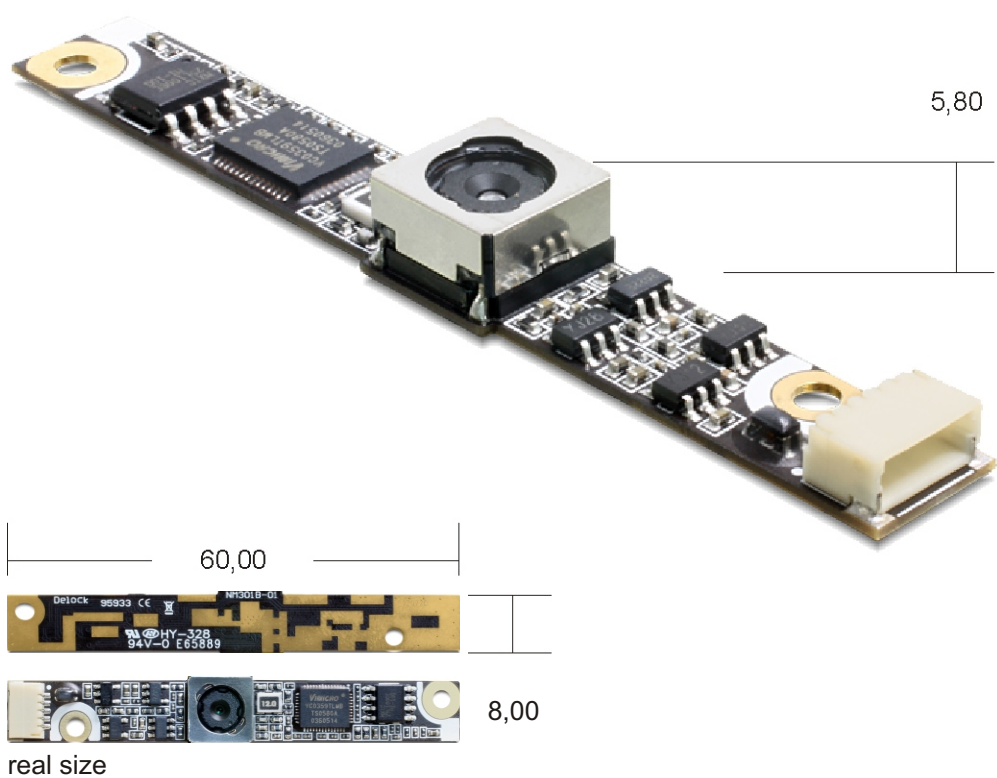


Specification

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Delock industry USB 2.0 camera module 3,14 Mpix

EAN: 4043619959334



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Specification

Main parameter

Nr.	Item	Specification
1	EFL	2.8
2	F.NO	2.9
3	View Angle	65.3°±3°(Diag)
4	Image Quality	Center 1000LW/PH, Side 800LW/PH
5	Focusing Range	10cm - infinite (AT=1.3M)
6	Chip Type	MT9T113
7	Array Size	2048×1536
8	Lens Size	1/5 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
With Vimicro driver:

	160	176	320	352	640	800	1280	1600	2048
	x	x	x	x	x	x	x	x	x
Frame rate	144	144	240	288	480	600	1024	1200	1536
YUV fps	30	30	30	30	30	7,5	7,5	7,5	7,5

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USB Camera Module
Without Vimicro driver:

	160	176	320	352	640	800	1280	1600	2048
	x	x	x	x	x	x	x	x	x
Frame rate	144	144	240	288	480	600	1024	1200	1536
MJPEG	30	30	30	30	30	30	7,5	7,5	7,5
YUV fps	30	30	30	30	30	n/a	n/a	n/a	n/a

Support for various

32-bit, 64-bit Windows, Windows2000/XP/Vista/Win7/Linux with UVC driver (open source available at <http://linux-uvc.berlios.de>)

Applications

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

Component specification

No.	Item	Specification
1	Sensor	MT9T113 Aptina
2	Lens Size	1/5 "
3	Active Array size	2048×1536
4	Power Supply	Analog = 2.5-3.1V; I/O = 1.7-3.1V
5	Power Requirements	450mW at 30 fps (preview mode)
6	Standby	20µA
7	Output Format (8bit)	YUV 422/YUV420, RGB565, RGB555, RGB444, JPEG422
8	Video Format	QXGA
9	Image Processing	Automatic image control functions including: Automatic Exposure Control (AEC); Automatic White Balance (AWB) and Automatic Black-Level Calibration (ABLC)
10	Interface	Serial interface (SCCB)
11	Sensitivity	0,75V/(Lux.sec)
12	S/N Ratio	36dB
13	Dynamic Range	62,5dB
14	Pixel Size	1,4 micrometer × 1,4 micrometer
15	Image Area	1148 micrometer × 861 micrometer

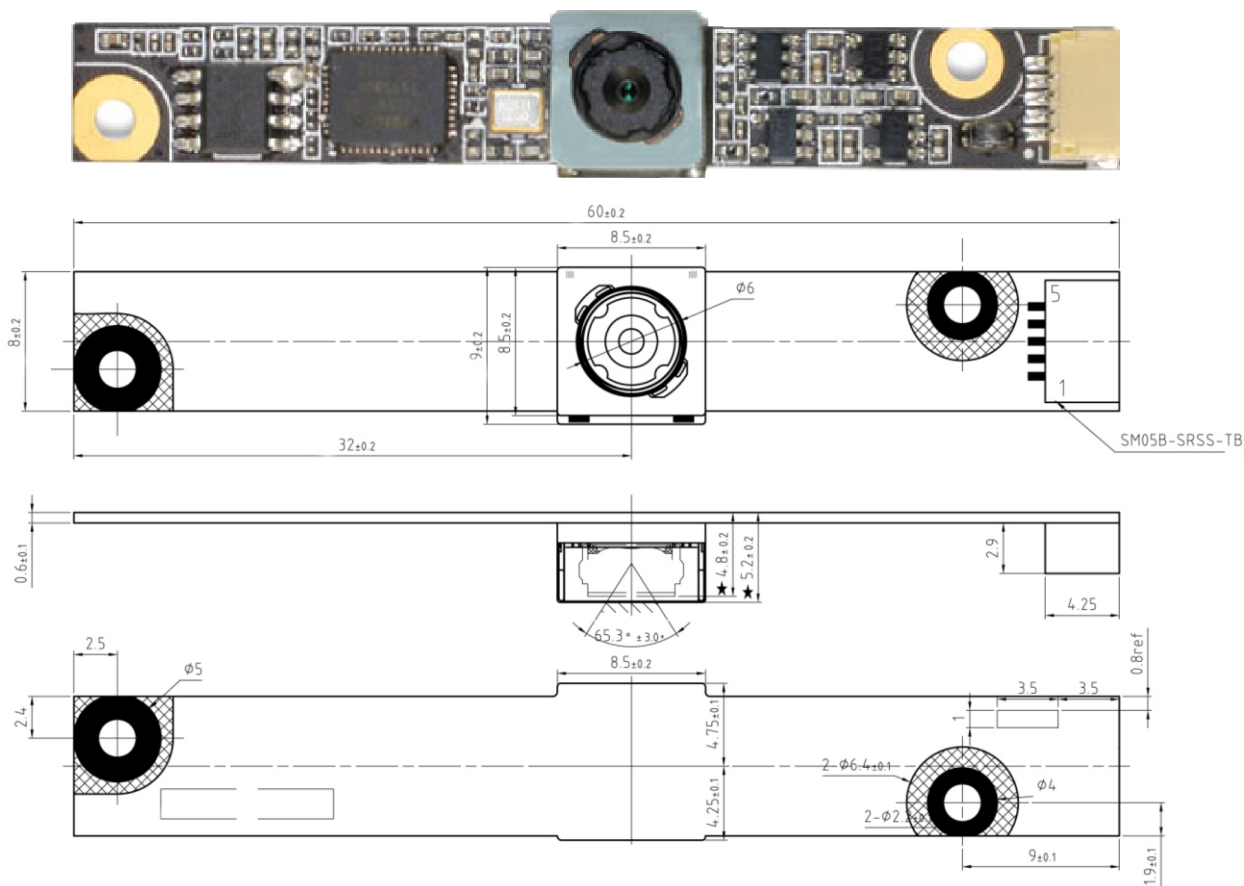
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Mechanical drawing



Specification

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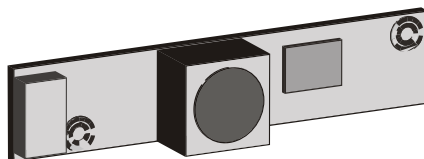
EAN: 4043619959334

Camera lens specification

No.	Item	Specification
1	Lens Size	1/5 Inch
2	Lens Construction	3 Plastic
3	Focal Length	2.8mm
4	F/NO.	2.9
5	Field of View Angle (Diagonal)	65.3°±3°
6	Distortion	< 0.29%
7	Focus Distance	1.3M
8	Focusing Range	10cm - infinite
9	Image Quality	800LW/PH

The key hardware

NO.	Item	Name	Provider
1	Motor	TVF-603ABN	TDK
2	Sensor	MT9T113	Aptina
3	Lens	MQX5230	Microptics
4	Connector	SM05B-SRSS-TB	JST
5	Holder	P5M04DA-701	YUYAO JIEGANG CO.LTD



orientation

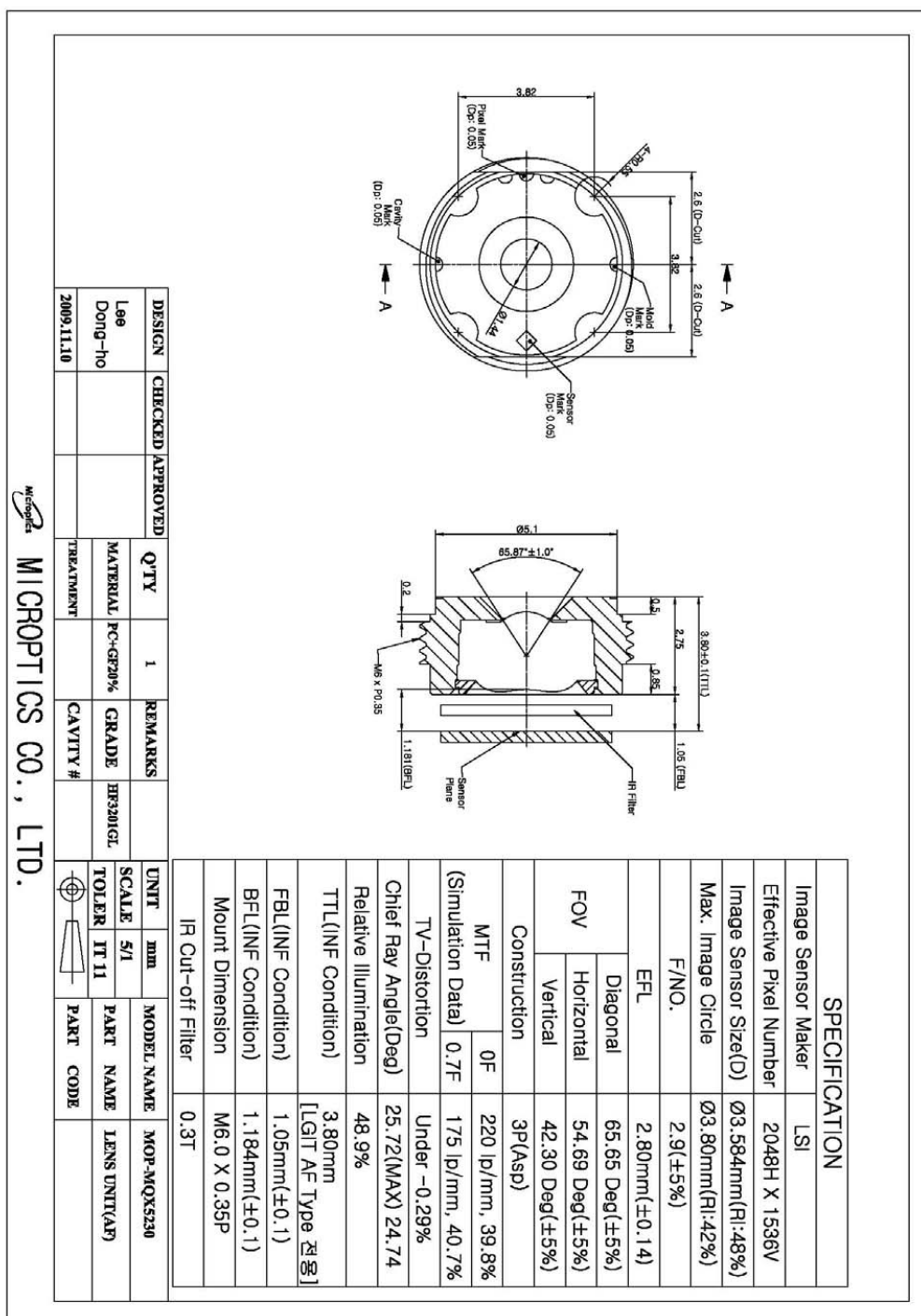


Specification

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Specification

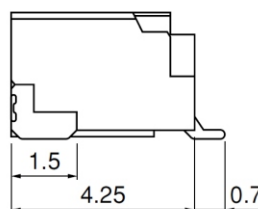
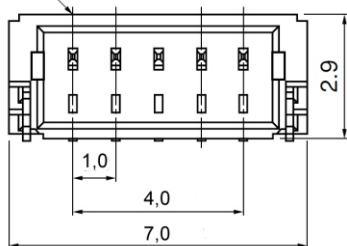
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Pin assignment

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

Specification

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3.3 DSP

VC0359 is a high performance USB 2.0 camera processor targeting for high quality embedded Notebook webcam and standard-alone webcam .It comes with high quality Image signal processing(ISP) unit and a MJPEG compression engine.Its flexible sensor interface can support most common CMOS image sensors in the market,It is also fully compliant with UVC and UAC standard.

The following tables show the main video operation modes that VC0359 supports:

Video capability

Standard	Resolution	YUY2	MJPEG
VGA	640x480	30fps	60fps
HD-720	1280x720	12fps	30fps
SXGA	1280x1024	7fps	30fps
2.0M	1600x1200	4fps	30fps
HD-1080	1920x1080	4fps	30fps

Audio capability

Built in PDM interface for digital audio mic. Support up to 2 digital audio microphones.

I/O

USB 2.0 High Speed device
GPIO/ PWM/ UART/ I2C/ PDM
SPI (for Flash memory)

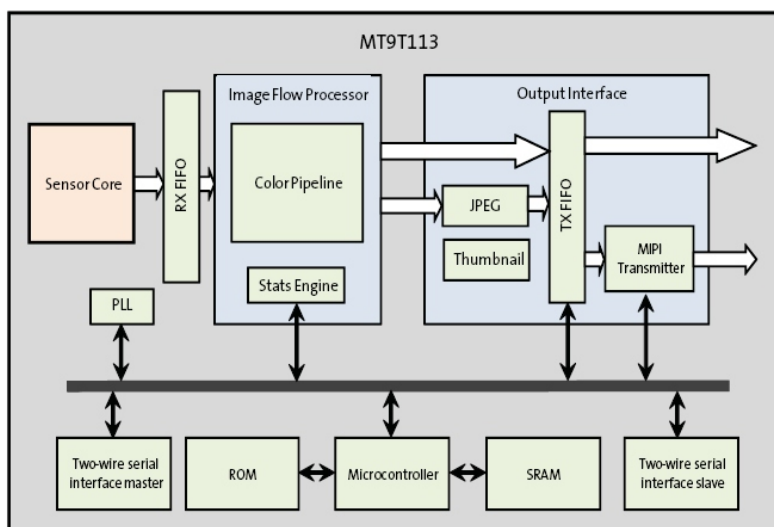
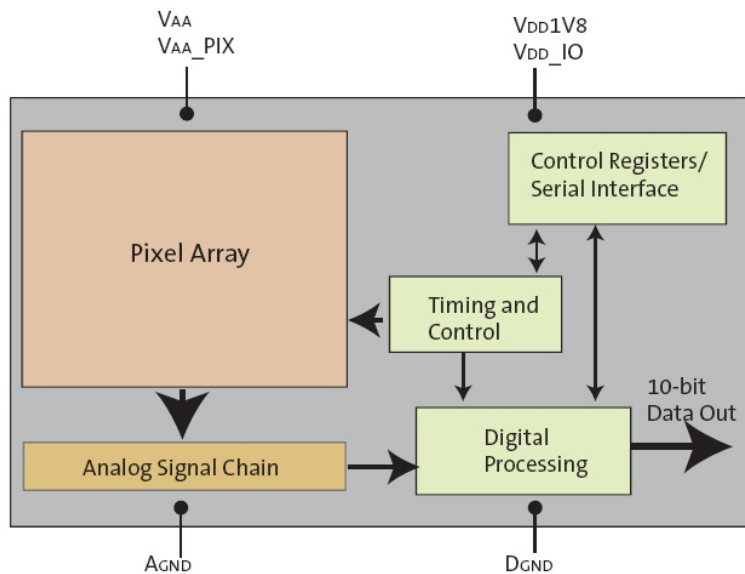
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Sensor Core Block Diagram



Specification

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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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Support Delock

If you have further questions, please contact our customer support

support@delock.de.

You can find current product information on our homepage: www.delock.com.

Final clause

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

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