This is a family of products based on the most advance CMOS mixed signal technology. It integrates image array, signal processing, timing and control circuitry, all on a single chip. It is ideal for applications requiring a small footprint, low power and low cost.

**Features:**

- Small size: 2.65mm diameter
- Resolution: 400x400 pixels
- Operation voltage 3.3V
- Low power consumption (48mW typ.)
- Cable size: 1.95mm OD
- Cable length: 1M

**Application Example**

- Inspection device
- Endoscope

**Pin Description**

1. VDD 3VDC
2. GND Ground
3. CLK Clock input from backend
4. VTO Analog video out
5. SDA I2C data
6. SCL I2C clock

**Application Note**

This module needs the backend chip OV420 to work with. For details of backend solution, please refer to the related doc, C3842 (USB application) and C6203, C9203 (handheld application)

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**Specification**

<table>
<thead>
<tr>
<th>Imager</th>
<th>CMOS imager sensor OV6930</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical Format</td>
<td>1/10.6”</td>
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<tr>
<td>Clock rate</td>
<td>4MHz</td>
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<tr>
<td>Max exposure</td>
<td>876 x T line</td>
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<tr>
<td>Video Output</td>
<td>Analog</td>
</tr>
<tr>
<td>Scan mode</td>
<td>Progressive</td>
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<tr>
<td>Data format</td>
<td>Raw RGB</td>
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<tr>
<td>Picture Element</td>
<td>400x400 pixel</td>
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<tr>
<td>Pixel size</td>
<td>3.0x3.0um</td>
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<tr>
<td>Effective image area</td>
<td>1224x1212um</td>
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<tr>
<td>S/N Ratio</td>
<td>38dB</td>
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<tr>
<td>Dynamic range</td>
<td>68dB</td>
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<tr>
<td>Operation Voltage</td>
<td>3.3VDC</td>
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<tr>
<td>Operation Current</td>
<td>15.4mA max</td>
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<td>Connector</td>
<td>6pin cable</td>
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<tr>
<td>Connection</td>
<td>VDD, GND, CLK, VTO, SDA, SCL</td>
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<tr>
<td>Dimension</td>
<td>Sensor board: 2.65mm diameter</td>
</tr>
<tr>
<td></td>
<td>Main board: 2.65x3mm</td>
</tr>
</tbody>
</table>

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**Application Block Diagram**

1. **PC Display**
   
   ![PC Display Diagram](image1)

2. **Desktop TV display**
   
   ![Desktop TV Diagram](image2)

3. **Portable/handheld TFT display**
   
   ![Portable TFT Diagram](image3)
General Description

The C3842 is specially designed for interface micro-camera module, muC301. It has built in a delicate DSP for the interface for muC301 as well as the USB2.0 transceiver. A demo program has been designed for evaluation purpose.

Block Diagram

Features

- Small in size, 14.5x55mm
- USB2.0 compatible
- Mini-USB connector
- Low power consumption 60mA

Demo Software Functions

- Preview / freeze
- Save image to PC/NB
- Flip/mirror
- Auto/Manual color control
- Auto/Manual gain control
- Mask enable / disable
- Lens Barrel effect correction