

## PAC7512 HD-720p USB 2.0 Camera SoC

### General Description

The **PAC7512** HD-720p PC Camera SoC is a highly integrated and cost-effective solution for USB applications. It is fully compliant with USB Video Class and operates with native drivers in Windows operating system.

UVC defined image processing functions are supported by sensor's ISP engine. The **PAC7512** integrates CMOS image sensor, color image processing engine, regulator, USB2.0 transceiver and MCU ( Micro controller unit) into single chip. It is designed to outputs YUV422 and motion JPEG (MJPEG) image format, and output resolution from QQVGA (160x120) to HD (1280x720) size.

### System Features

- 3.3V and 1.5V power input
- Built-in oscillator, external crystal is not needed.
- 5 GPIO, including KEY and LED
- Flash/EEPROM Serial Peripheral Interface (SPI) Compatible

### USB Features

- USB 2.0 and USB video class 1.0 compliance.
- 3 Endpoints: CONTROL, Interrupt IN, and Isochronous IN

### Micro Controller Features

- Built-in micro controller with 1K bytes SRAM data memory
- 24K bytes mask ROM and 4K bytes SRAM for program memory
- Software controlled connection to USB bus for re-enumeration and soft reset.
- Firmware is upgradeable from PC via USB connection

### Key Specification

<b>Resolution</b>	1280 (H) x 720 (V)
<b>Optical Format</b>	1/6.5"
<b>Pixel Size</b>	1.75um x 1.75um
<b>Chief Ray Angle</b>	28.4 degree
<b>Sensitivity</b>	1075 mV/lux-sec
<b>Max. Frame Rate</b>	720p (MJPEG): 30fps 720p (YUV422): 10fps VGA (YUV422): 30fps
<b>Color Filter</b>	RGB Bayer Pattern
<b>Scan Mode</b>	Progressive
<b>Supply Voltage</b>	3.3V ± 10%
<b>S/N Max</b>	39dB
<b>Dynamic Range</b>	65dB
<b>Power Consumption</b>	460 mW

### Ordering Information

Part number	Package Type	Package Size
PAC7512LT	50 ball CSP	4.68mm x 4.32mm