



Low Cost Embedded Camera Image Processing Chip for the PVS VGA CMOS Image Sensor

Advanced Technical Data
(Preliminary)

Provides a single chip solution for a low cost, high performance, high image quality embedded digital still or video camera.

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Applications include :

**Cell Phone, PDA and Handheld Cameras
VGA and CIF PC Cameras
High Performance PC Video Conferencing Camera
Security and Surveillance Cameras**

Description:

When coupled with the PVS VGA CMOS Image Sensor, the LCIP-2001 provides a full system solution for low cost VGA, partial VGA and CIF embedded imaging applications. Its low cost, single chip implementation allows it to be ideal for cost sensitive applications, and its high quality image processing and high frame rate capabilities allow it to be the optimum choice for next generation designs. The LCIP-2001 provides all of the image path, image processing and interface functions required for a complete embedded imaging design.

All necessary image processing functions are provided including Bayer pattern interpolation, Auto Exposure and White Balance, and Color Space Transformation to YcbCr (YUV). In addition, many image processing parameters are programmable to enable maximum flexibility.

A development system is available (the ASIP-2000) which provides all of the image processing functions of the LCIP-2001 as well as a PVS VGA sensor and lens.

Features:

- PVS High Quality, Fully Programmable, Image Processing Algorithms
 - o Bayer Interpolation
 - o Auto White Balance
 - o Auto Exposure
 - o Gamma Correction
 - o Color Space Transform, YcbCr (YUV) or RGB Output
 - o Defect Removal
- Simple digital video interface and serial control interface.
- 60, 30, and 15 fps output at multiple resolutions.
- Directly supports the PVS VGA CMOS Image Sensor
- Low cost, low silicon area design.

Block Diagram

