STV0684

Digital Camera Processor

DATA BRIEF

FEATURES

- Supports the UXGA (1600 x 1200 pixels) CMOS sensors from STMicroelectronics
- High quality video processor
  - RAM based firmware
  - Pixel defect correction
  - Noise reduction algorithms
  - Anti-vignetting algorithms
  - Advanced statistics processors
  - Two general purpose scalers
- ST20 32-bit core
  - Instruction, data cache and embedded memory for fast code execution
  - Embedded ROM bootloader for code storage in cost effective NAND flash memory
  - Code can be executed from SRAM & SDRAM
- On-chip 16-bit Sigma-Delta analog to digital converter for audio record
- Audio digital to analog converter for audio playback
- AVI (Audio Video Interleaved) clips directly recorded into the mass storage media
  - Long clip length
  - Low power consumption
- Flexible TFT - TFD digital interface with preview capability while recording
  - Direct support for Casio, Epson and AU optronics display
  - Flexible digital interface designed to support future digital panels
- PAL and NTSC encoder with on-chip digital to analog converter for TV display
- Versatile mass storage interface
  - Support Compact-Flash, Nand-on-Board, SmartMedia, Secure Digital and Multi-Media
- JPEG and MJPEG CODEC
- USB 2.0 full speed device
  - USB audio and video class compliant
  - USB mass storage class compliant, Bulk-only transfer protocol
- PCI controller
- PC sound chip

DESCRIPTION

The STV0684 is a one-chip camera processor for UXGA CMOS digital still cameras. ST supplies complete reference designs including the sensor and co-processor chipset, firmware and software drivers. The STV0684 uses a small BGA package (12 mm x 12 mm) ideal for the design of very small digital cameras. The STV0684 relies on ST unique and highly performing video processor algorithms that include, for example, the newly improved and patented NORA (Noise Reduction Algorithm) and anti-vignetting algorithms.

APPLICATIONS

- Digital still cameras
- Solid state video camera recorders
- Embedded cameras

TECHNICAL SPECIFICATIONS

Resolution	UXGA - VV6700V001
Sample rate	48 M sample/s(MSPS)
Power supply	3.3V and 1.8V
Power requirements	[150 ; 200] mA (@1.8 V)
Package	BGA196, 12x12 mm

PART NUMBERING

Table 1. Order Codes

Sale type	Temperature	Package
STV0684	[0; +70] °C	BGA196

REVISION HISTORY

Table 2. Revision History

Date	Revision	Description of Changes
October 2004	1	First Issue