SGS-THOMSON MICROELECTRONICS

STi3520A

MPEG AUDIO / MPEG-2 VIDEO INTEGRATED DECODER

BRIEF DATA

- SINGLE CHIP AUDIO/VIDEO DECODER ABLE TO DECOMPRESS MPEG-1 AND MPEG-2 BITSTREAMS
- ON-CHIP PLL ALLOWING FULL CIRCUIT OPERATION WITH ONLY ONE EXTERNAL CLOCK
- ACCEPTS MPEG AUDIO, VIDEO AND PROGRAM STREAMS (PES)
- VIDEO DECODER FULLY SUPPORTS MPEG-2 MAIN PROFILE/MAIN LEVEL (MP@ML)
- MPEG-2 MAIN PROFILE CCIR601 DECODING IN 16 MBITS DRAM (NTSC AND PAL INCLUDING OSD)
- MPEG-2 SIMPLE PROFILE DECODING IN 8MBITS DRAM
- AUTOMATIC VIDEO ERROR CONCEALMENT
- ON-SCREEN DISPLAY GENERATOR :
  16 COLORS/REGION,
  6-BIT LUMA RESOLUTION
  (4 BITS/PEL, 4 BITS/2 PELS, 2 BITS/2 PELS AND 2 BITS/PEL MODES).
  LINKED LIST MEMORY MANAGEMENT
- AUDIO DECODER SUPPORTS LAYERS 1 AND 2 OF MPEG
- ALL POPULAR AUDIO OUTPUT PCM FORMATS SUPPORTED
- INTEGRATED AUDIO BIT-BUFFER
- SUPPORT FOR SYNCHRONOUS DRAM
- STANDARD 8-BIT INTERFACE FOR MICROCONTROLLER AND COMPRESSED DATA INPUT
- 3.3V POWER SUPPLY, I/Os 5V COMPATIBLE, 0.5µM CMOS TECHNOLOGY

APPLICATIONS

- DBS AND DVB RECEIVERS
- DIGITAL TV RECEIVER
- DIGITAL CABLE TV RECEIVER

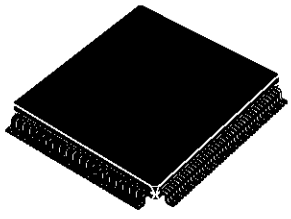
DESCRIPTION

The STi3520A contains an MPEG-2 video decoder, an MPEG audio decoder and a PLL. The STi3520A requires minimum support from an external microcontroller, which is mainly required to control the video decoder at the start of every picture.

The video decoder is a real-time video compression processor supporting the MPEG-1 and MPEG-2 standards at video rates up to 720 x 480 x 60Hz or 720 x 576 x 50Hz. Picture format conversion for display is performed by vertical and horizontal filters. The image can also be up and down sampled in the horizontal direction. The audio decoder is compliant with layers 1 and 2 of the MPEG standard. Sampling rates of 32, 44.1 and 48kHz can be used.

Audio, video and PES data streams are input through the 8-bit data port. Time stamps are extracted automatically to aid audio/video synchronization. Undetected bitstream errors activate error concealment functions.

User-defined bitmaps may be superimposed on the displayed picture through use of the on-screen display function. These bitmaps are written directly into the DRAM memory by the microcontroller.



PQFP160
(Plastic Quad Flat Pack)

ORDER CODE : STi3520ACV