DESCRIPTION

VXIS VS9937 PC to TV encoder is a stand-alone integrated circuit that converts analog VGA inputs directly into 525-line (M) NTSC or 625-line (B, D, G, H, I, M, N, Nc) PAL composite video and S-video outputs.

VS9937 integrates a digital NTSC / PAL encoder with 10-bits ADC and 10-bits DAC interfaces, a flick free vertical filter and low-jitter phase-locked loop to create outstanding quality video with 30-bits-per-pixel processing throughout the entire signal path.

A high level of integration and performance makes the chip ideal for a variety of stand-alone and system-level integration solutions, including notebook computers and PC add-on graphics cards.

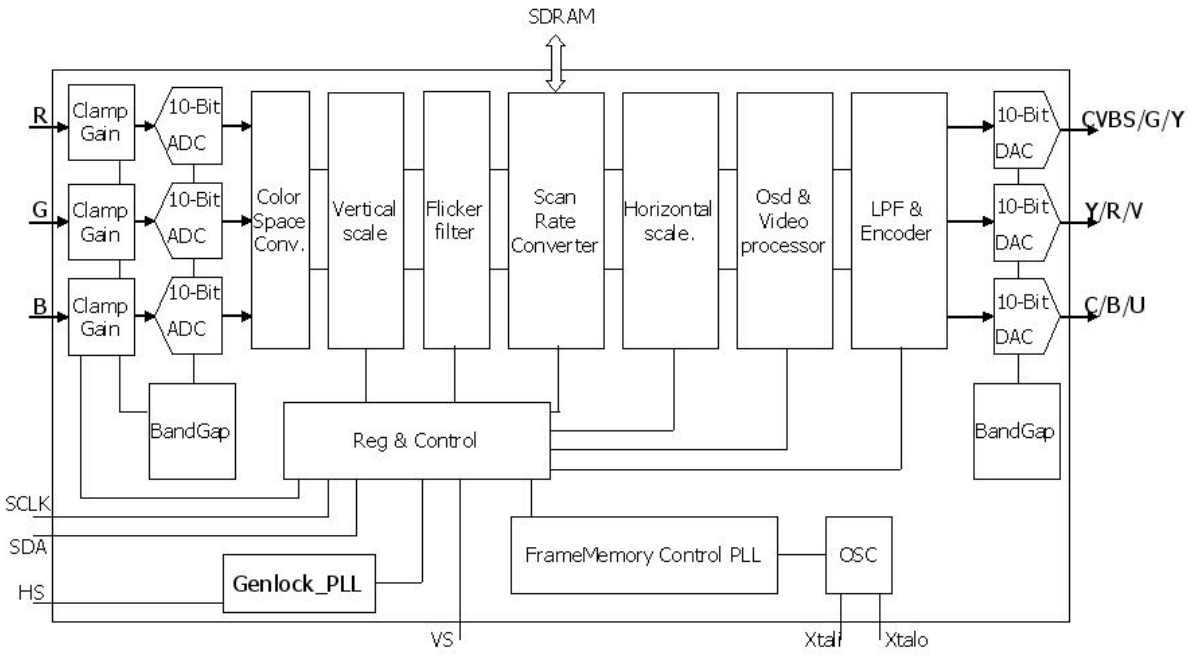
APPLICATION

- Advanced PC to TV scan converter
- Internet appliances / TV
- Set-top box
- Computer compatible TV
- DVD movie playback

PACKAGE

100-pin LQFP

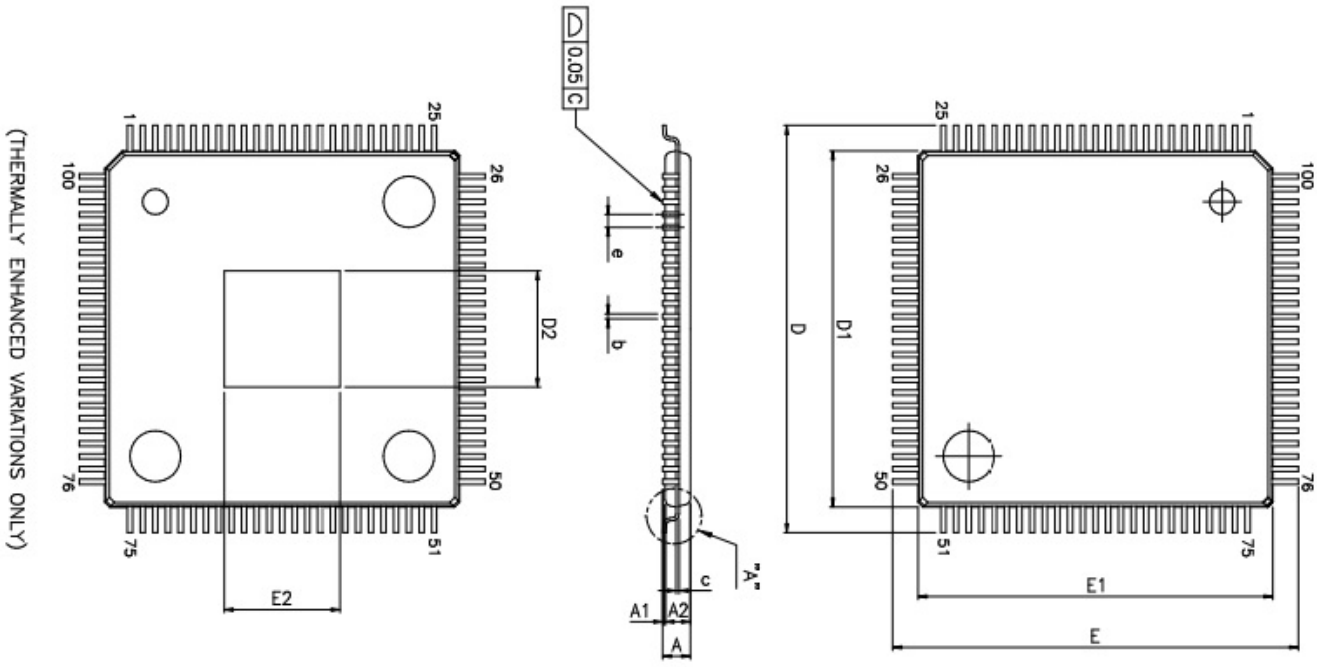
FUNCTIONAL BLOCK DIAGRAM



FEATURES

- Three 10-bits ADC for R.G.. B. Clamping ckt. Included.
- Three 10-bits DAC for CVBS/G/Y, Y/R/V, C/B/U. Transfer rate up to 27 MHz.
- Advanced adjustable digital vertical filter.
- Support SDRAM for Frame-Memory.
- Support linear scale down function for vertical and horizontal.
- Support input 640 x 480 to 1920 x 1200.
- Genlock PLL included.
- ZOOM x 2 and Pan feature.
- Internal generate COLOR BAR test patterns.
- Only one Crystal (27 MHz) required.
- Programmable sharpness, brightness, contrast, saturation and hue.
- Automatically synchronous polarity detection.
- Digital Color Space Convert.
- 64-step analog input gain control.
- Support program mode when VGA exceed internal default mode.
- Freeze mode can be supported.
- I2C like serial interface.
- Simultaneous composite / S-video output.
- Selectable TV output format, composite, S-video or YUV for SCART.
- LEFT / RIGHT / UP / DOWN, ZOOM, SIZE, OSDEN and MENU are controlled by pins.
- Support VESA DPMS power down mode to conserve power.
- Build in OSD.
- 100-pin LQFP.
- 1.8V / 3.3V power supply with 3.3V digital I/O.

PACKAGE : LQFP-100



VARIATIONS (ALL DIMENSIONS SHOWN IN MM)

SYMBOLS	MIN.	NOM.	MAX.
A	---	---	1.20
A1	0.05	---	0.15
A2	0.95	1.00	1.05
b	0.17	0.22	0.27
c	0.09	0.127	0.16
D		16.00 BSC	
D1		14.00 BSC	
E		16.00 BSC	
E1		14.00 BSC	
e		0.50 BSC	
L	0.45	0.58	0.75
L1		1.00 REF	
θ	0°	3.5°	7°

THERMALLY ENHANCED DIMENSIONS(SHOWN IN MM)

PAD SIZE	E2		D2	
	MIN.	MAX.	MIN.	MAX.
180X18E	3.66	4.57	3.66	4.57
230X23E	4.97	5.84	4.97	5.84
256X25E	5.53	6.50	5.53	6.50

NOTES:
1.JEDEC OUTLINE:
MS-026 AED.
MS-026 AED-HD (THERMALLY ENHANCED VARIATIONS ONLY).
2.DATUM PLANE H IS LOCATED AT THE BOTTOM OF THE MOLD PARTING LINE COINCIDENT WITH WHERE THE LEAD EXITS THE BODY.
3.DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD PROTRUSION. ALLOWABLE PROTRUSION IS 0.25 mm PER SIDE. DIMENSIONS D1 AND E1 DO INCLUDE MOLD MISMATCH AND ARE DETERMINED AT DATUM PLANE H.
4.DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION.