

## **10-Bit Digital Video Decoder with OSD and T-CON**

### **Features**

#### **General:**

- No external memory required
- One 10-bit video CMOS Analog-to-Digital Converters (ADCs) in differential CMOS style for best S/N-performance
- Fully programmable static gain or automatic gain control (AGC): 0~12db (Analog) and 0~18db (Digital)
- One analog input
- Automatic Clamp Control (ACC) for CVBS
- On-chip clock generator
- L-lock system clock frequencies
- Digital PLL for synchronization and clock generation from all standards and non-standard video sources e.g. consumer grade VTR
- Requires only one crystal (24.576 MHz) for all standards
- Automatic detection of 50 and 60 Hz field frequency, and automatic switching between PAL and NTSC standards
- Accepts NTSC (J, M, 4.43), PAL (60, B, D, G, H, I, M, N), and SECAM (B, D, G, K, K1, L) video signal
- User programmable luminance peaking or aperture correction
- Adaptive 3/5-line comb filter for two dimensional chrominance/luminance separation
- PAL delay line for correcting PAL phase errors
- Multi-standard VBI-data slicer including closed caption
- YUV to RGB color space converting
- Fully programmable zoom-out arbitrary ratio in both horizontal and vertical
- Anamorphic zoom for 4:3 video input to 16:9 display converting
- Embedded brightness, contrast, sharpness and gamma correction
- Embedded CTI
- Embedded programmable OSD for user Interface
- Embedded programmable TCON (Timing-Control) generator for LCD interface
- Embedded 3 PWM (Pulse Width Modulation) generators for general purpose control

#### **Output:**

- 3x8 Bits digital output ports (R,G,B)
- Programmable RGB output port order and pin order
- Maximum output pixel frequency 85MHz@ digital output
- Support inverse and frequency adjustment for LCD panel clock
- Support programmable H/V sync. for LCD panel
- Support Delta and Stripe types LCD panel
- Free-run Synchronization mode if sync signal disappeared

#### **Interface:**

- Support Two-Wire Serial Interface (TWSI) Bus interface
- Support 24Cxx serial EEPROM Boot 8051 controller

#### **OSD:**

- Built-in OSD generator with 128 ROM fonts, 512 mix color
- 3 windows support overlay function
- 2048x12 programmable OSD Memory
- Independent zoom ratio x1~x16 for horizontal and vertical direction
- Programmable Vertical Direction Line Space
- Programmable Horizontal Character Space
- Flashing font attribute
- Fringe font attribute
- Transparent overlay for OSD windows

#### **Power management:**

- 1.8V power source for core,
- 3.3V power source for output pads
- Power Consumption less than 300 mW

#### **Package:**

- LQFP-64, 7mm \* 7mm