Low Power NTSC/PAL/SECAM Video Decoder with Differential CVBS Inputs

TW9990

Features

Video Decoder

- NTSC (M, 4.43) and PAL (B, D, G, H, I, M, N, N combination), PAL (60), SECAM support with automatic format detection
- Software selectable analog input control allows for combinations of single ended CVBS, differential CVBS, and S-Video
- Built-in analog anti-alias filter
- Two 10-bit ADCs and analog clamping circuit
- Fully programmable static gain or automatic gain control for the Y channel
- Programmable white peak control for the Y channel
- 4-H adaptive comb filter Y/C separation
- PAL delay line for color phase error correction
- Image enhancement with peaking and CTI.
- Digital sub-carrier PLL for accurate color decoding
- Digital Horizontal PLL for synchronization processing and pixel sampling
- Advanced synchronization processing and sync detection for handling non-standard and weak signal
- Programmable hue, brightness, saturation, contrast, and sharpness.
- Automatic color control and color killer
- Chroma IF compensation
- VBI slicer supporting industrial standard data services
- VBI data pass through, raw ADC data output
- Programmable output cropping

Digital Output

- ITU-R 601 or ITU-R 656 compatible YCbCr (4:2:2) output format

Miscellaneous

- Short to Battery Detection Test
- Short to Ground Detection Test
- Two wire MPU serial bus interface
- Supports Real Time Control interface
- Power save and Power down mode
- Low power consumption: < 100mW typical
- Single 27MHz crystal for all operations
- Supports 24.54MHz and 29.5MHz crystal for high resolution square pixel format decoding
- 3.3V tolerant I/O
- 1.8V / 3.3 V power supply
- 32pin QFN with wettable flanks