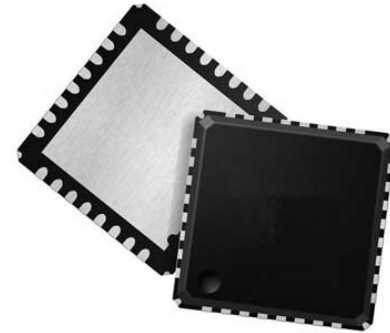


VIDEO DECODER, -40 TO 85DEG C New

Manufacturers	Renesas Technology Corp
Package/Case	QFN32
Product Type	Interface ICs
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for TW9900-NA1-GR or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The TW9900 is a low power NTSC/PAL/SECAM video decoder chip that is designed for portable applications. It consumes less than 100mW in typical composite input applications. The available power-down mode further reduces the power consumption. It uses the 1.8V for both analog and digital supply voltage and 3.3V for I/O power. A single 27MHz crystal is all that is needed to decode all analog video standards. The video decoder decodes the baseband analog CVBS or S-video signals into digital 8-bit 4:2:2 YCbCr for output. It consists of analog front-end with input source selection, variable gain amplifier and analog-to-digital converters, Y/C separation circuit, multi-standard color decoder (PAL BGHI, PAL M, PAL N, combination PAL N, NTSC M, NTSC 4.43 and SECAM) and synchronization circuitry. The Y/C separation is done with high quality adaptive 4H comb filter for reduced cross color and cross luminance. The advanced synchronization processing circuitry can produce stable pictures for a non-standard signal as well as a weak signal. The output of the decoder is line-locked and formatted to the ITU-R 656 output with embedded sync. The TW9900 also includes circuits to detect and process vertical blanking interval (VBI) signal. It slices and processes VBI data for output through video bus. Some information can also be alternatively retrieved through the host interface. It also detects copy-protected signal according to Macrovision standard including AGC and color stripe pulses. A 2-wire serial host interface is used to simplify system integration. All the functions can be controlled through this interface.

Features

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 inputs allow any of the following combinations, e.g., 2 CVBS or 1 Y/C

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 subcarrier PLL for accurate color decoding

Digital horizontal PLL for synchronization processing and pixel sampling

Advanced synchronization processing and sync detection for handling nonstandard and weak signal

Programmable hue, brightness, saturation, contrast, and sharpness

Automatic color control and color killer

Chroma IF compensation

Detection of level of copy protection according to Macrovision standard

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

VBI slicer supporting industrial standard data services

VBI data pass through, raw ADC data output

Programmable output cropping

Two-wire MPU serial bus interface

Supports real time control interface

Power save and power-down mode

Typical power consumption <100mW

Single 27MHz crystal for all standards

Supports 24.54MHz and 29.5MHz crystal for high resolution square pixel format decoding

3.3V tolerant I/O

1.8V/3.3V power supply

32 Ld TQFP and 32 Ld QFN package

Related Products



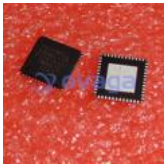
[TW9910-LB2-GR](#)

Renesas Technology Corp
LQFP-44



[TW2868-LA2-CR](#)

Renesas Technology Corp
TQFP128



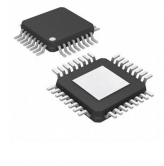
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Renesas Technology Corp
48-QFN



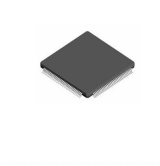
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Renesas Technology Corp
QFP-128



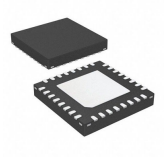
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Renesas Technology Corp
QFP-32



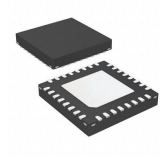
[TW2867-QLC1-CR](#)

Renesas Technology Corp
QFP-128



[TW9990AT-NA1-GRT](#)

Renesas Technology Corp
WFQFN-32



[TW9990AT-NA1-GR](#)

Renesas Technology Corp
32pin- WFQFN