

# Multi-Channel Video Decoder

CX25850/1/3

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications and the digital home.

### High Quality Integrated Video Surveillance System Front-End

The CX25850/1/3 multi-channel video decoder devices contain fast locking and low signal locking features designed specifically for the video surveillance market. The CX25850 and CX25851 both integrate four analog video decoders, each with a high-performance 10-bit ADC, full 10-bit data path through the decoder, and independent scaling. Eight composite video inputs allow the user to multiplex between two cameras on each video decoder input. The CX25853 integrates eight of the same high quality decoders and sixteen composite video inputs. The CX25850/1/3 also contain two analog video encoders and a digital monitor output port. All three devices support BT.656 digital video interfaces. The CX25851 also supports Synchronous Pixel Interface (SPI) digital video interfaces. All devices are designed for PC-based and embedded/stand-alone security Digital Video Recorders (DVRs).

### Flexible Architecture

With two composite input ports per decoder, the CX25850/1 supports direct connections for eight cameras, and the CX25853 supports sixteen cameras. This eliminates the need for external video multiplexers in systems where two cameras share a video decoder. Additionally, the CX25850/1/3 contains two on-board, high quality analog video encoders with dedicated BT.656 input pins. Alternatively, these encoders may be driven by streams internal to the device. These encoders provide surveillance DVR manufacturers with a convenient way of driving external monitors. When connected to the monitor output port, the CX25850/1/3 offers users the opportunity to "scroll" between decoder outputs at fixed intervals and/or switch to view a specific decoder output.

### **Ease of Use**

The CX25850/1/3 requires minimal programming for startup using an I<sup>2</sup>C serial protocol. The devices are preconfigured in a default mode for development, verification, and fast prototyping. The fast locking and low signal locking features were developed and optimized specifically for the video surveillance market. Fast locking ensures that each decoder within the CX25850/1/3 will lock to a new/switched input within one field, a feature that is useful in multiplexed camera systems. Low signal locking ensures that each decoder within the CX25850/1/3 will lock to composite signals as low as 100 mV peak-to-peak, a feature that helps in systems where cameras and feeds are not perfectly terminated.



## **Distinguishing Features**

- Integrated NTSC/PAL video decoding and encoding
- 10-bit ADCs and DACs
- · Analog composite video interfaces
- Multiple video decoders with 2 analog composite inputs per decoder
- Fast locking (<1 field) and low signal locking (100mVp-p)
- Independent scaling on each video decoder path
- BT.656/VIP digital interfaces
- Dedicated monitor output programmable to switch between decoder paths and/or cascade multiple devices together
- · Integrated anti-alias filters
- · On-chip voltage regulator
- 20mm X 20mm eTQFP package and 13mm x 13mm fpBGA package (CX25850)
- 28mm X 28mm eLQFP package (CX25851)
- 28mm X 28mm eLQFP package and 19mm x 19mm fpBGA package (CX25853)

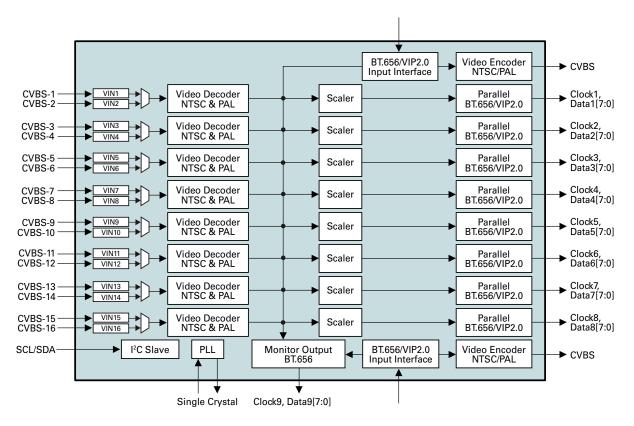
Part Number CX25850/1/3

**Description** Multi-Channel Video Decoder

### **Integrated Filters**

All video inputs have integrated anti-alias filters, eliminating the need for external filter components. These filters help improve the video decoding process by removing aliasing artifacts prior to the digitization process.

Conexant employs a proprietary method of luma-chroma separation of the composite video sources to ensure optimum video quality.



CX25850/1/3 Device Block Diagram

The CX25850 is offered in a 20mm X 20mm, 176-pin eTQFP package and a 13mm x 13mm fpBGA package.

The CX25851 is offered in a 28mm X 28mm, 208-pin eLQFP package.

The CX25853 is offered in a 28mm X 28mm, 256-pin eLQFP and a 19mm x 19mm fpBGA package.

### Conexant Product Portfolio

Conexant's comprehensive product portfolio includes solutions for imaging, audio, and video applications, and analog modems that enable cost-effective Internet access. The company's broadband access products include end-to-end solutions for xDSL networks, and PON solutions for fiber optic applications.

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