



# THCV233

V-by-One® HS High-speed video data transmitter with bi-directional transceiver

## General Description

THCV233 is V-by-One® HS High-speed video data transmitter with bi-directional transceiver. It convey not only video data (Main-Link), but also bi-directional system control data (Sub-Link) that is driven by 2-wire serial interface. HOST CPU-side of Sub-Link is selectable on each device and the other side of Sub-Link integrates I/O expander. THCV233-234 system is able to watch and control peripheral devices via 2-wire serial interface or GPIOs. They also can report interrupt events caused by change of GPIO inputs and internal statuses.

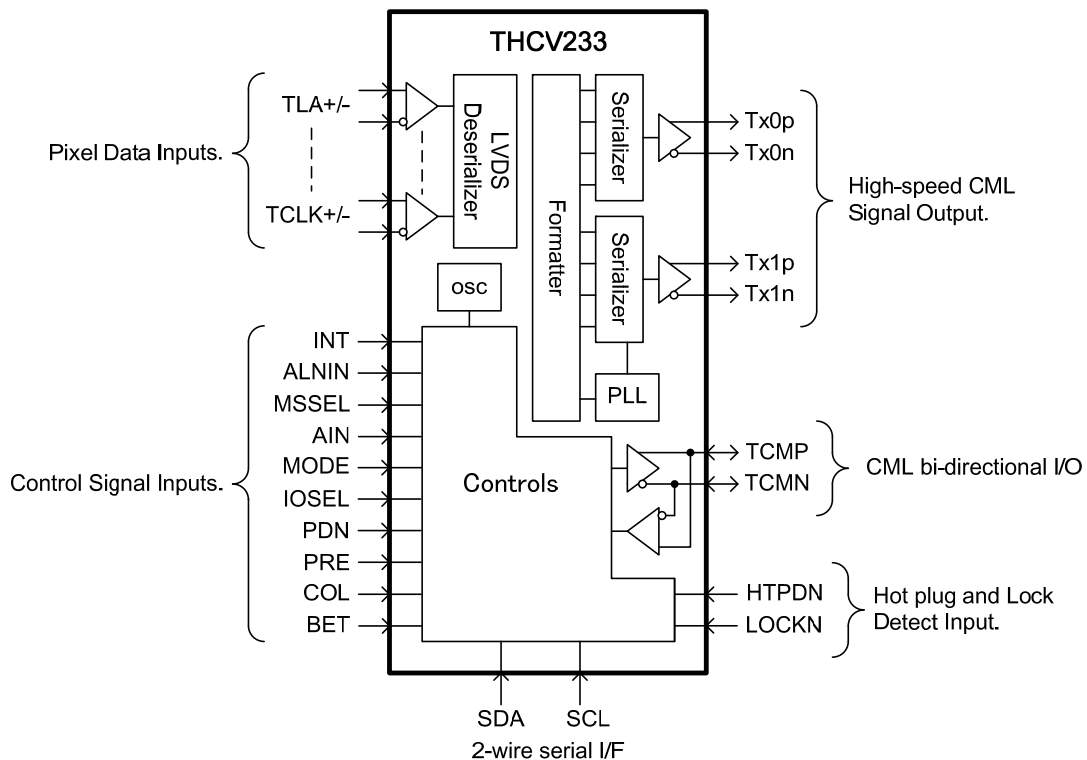
Width	Link	LVDS Clock Freq.
24bit	Si/So, Si/DDo	20MHz to 100MHz
	Si/Do	40MHz to 100MHz
32bit	Si/So, Si/DDo	20MHz to 85MHz
	Si/Do	40MHz to 85MHz

Si/So:Single-in/Single-out, Si/Do:Single-in/Dual-out  
 Si/DDo:Single-in/Distributed Dual-out  
 Di/So:Dual-in/Single-out, Di/SSo:Dual-in/Selected Single-out

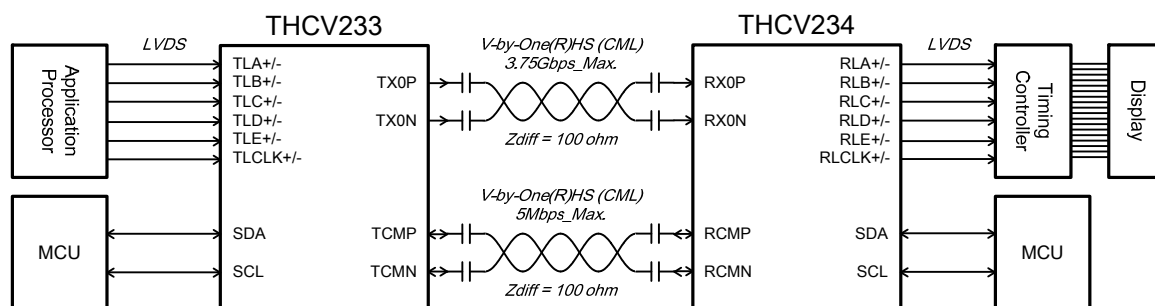
## Features

- LVDS Input internal termination
- CORE 1.8v, LVDS 3.3v
- Package: 48 pin QFN
- Main-Link
  - Data width selectable: 24/32 bit
  - Single/Dual Link selectable
  - AC coupling
  - Wide frequency range
  - CDR requires no external freq. reference
  - Supports Spread Spectrum Clocking: Up to 30kHz/±0.5%(center spread)
- Sub-Link
  - Driven by 2-wire serial I/F (Max. 400kbps)
  - GPIO expander : 4pins

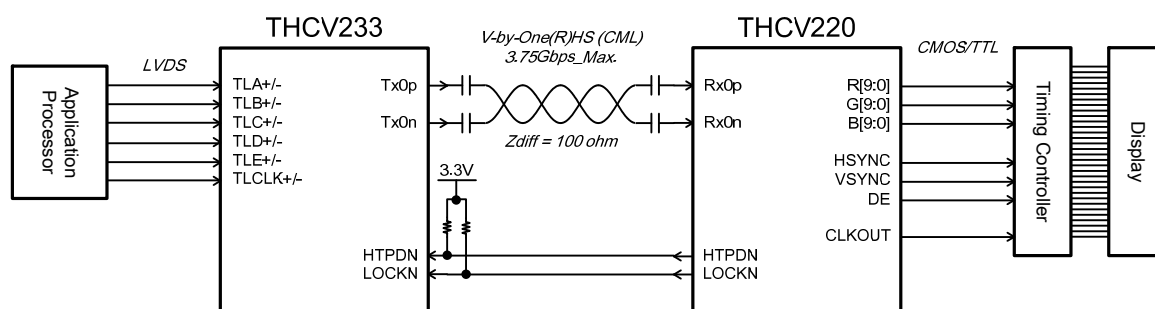
## Block Diagram



### Example System Diagram



Example for LVDS to LVDS with bi-directional transceiver



Example for LVDS to CMOS/TTL

### Notices and Requests

1. The product specifications described in this material are subject to change without prior notice.
2. The circuit diagrams described in this material are examples of the application which may not always apply to the customer's design. We are not responsible for possible errors and omissions in this material. Please note if errors or omissions should be found in this material, we may not be able to correct them immediately.
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6. Despite our utmost efforts to improve the quality and reliability of the product, faults will occur with a certain small probability, which is inevitable to a semi-conductor product. Therefore, you are encouraged to have sufficiently redundant or error preventive design applied to the use of the product so as not to have our product cause any social or public damage.
7. Please note that this product is not designed to be radiation-proof.
8. Customers are asked, if required, to judge by themselves if this product falls under the category of strategic goods under the Foreign Exchange and Foreign Trade Control Law.

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