



THCV235-Q and THCV236-Q

SerDes transmitter and receiver with bi-directional transceiver

General Description

The THCV235-Q and THCV236-Q are designed to support video data transmission between the host and display.

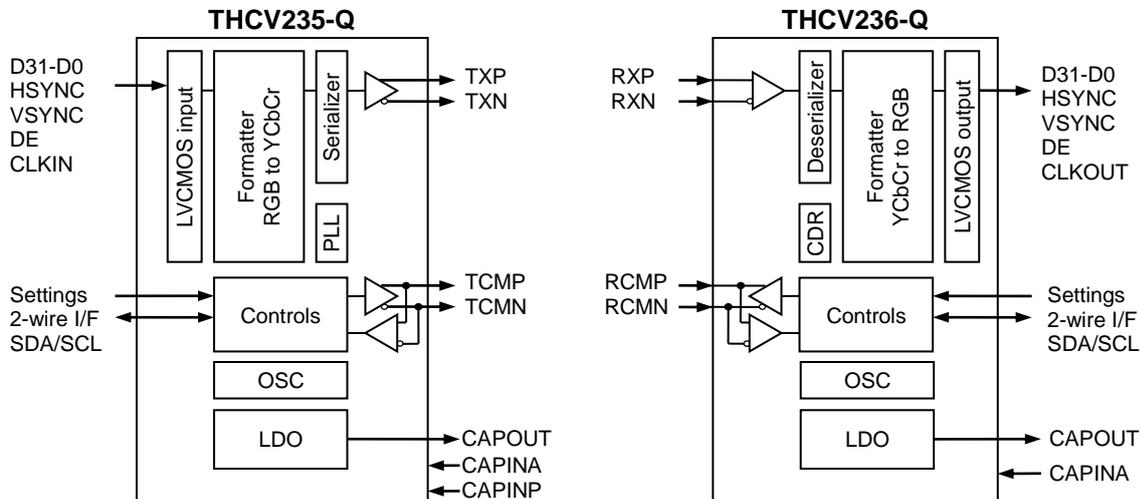
One high-speed lane can carry up to 32bit data and 3bits of synchronizing signals at a pixel clock frequency from 6MHz to 160MHz by converting RGB444 to YCbCr422.

The chipset, which has one high-speed data lane, can transmit video data up to 1080p/60Hz. The maximum serial data rate is 4.00Gbps/lane.

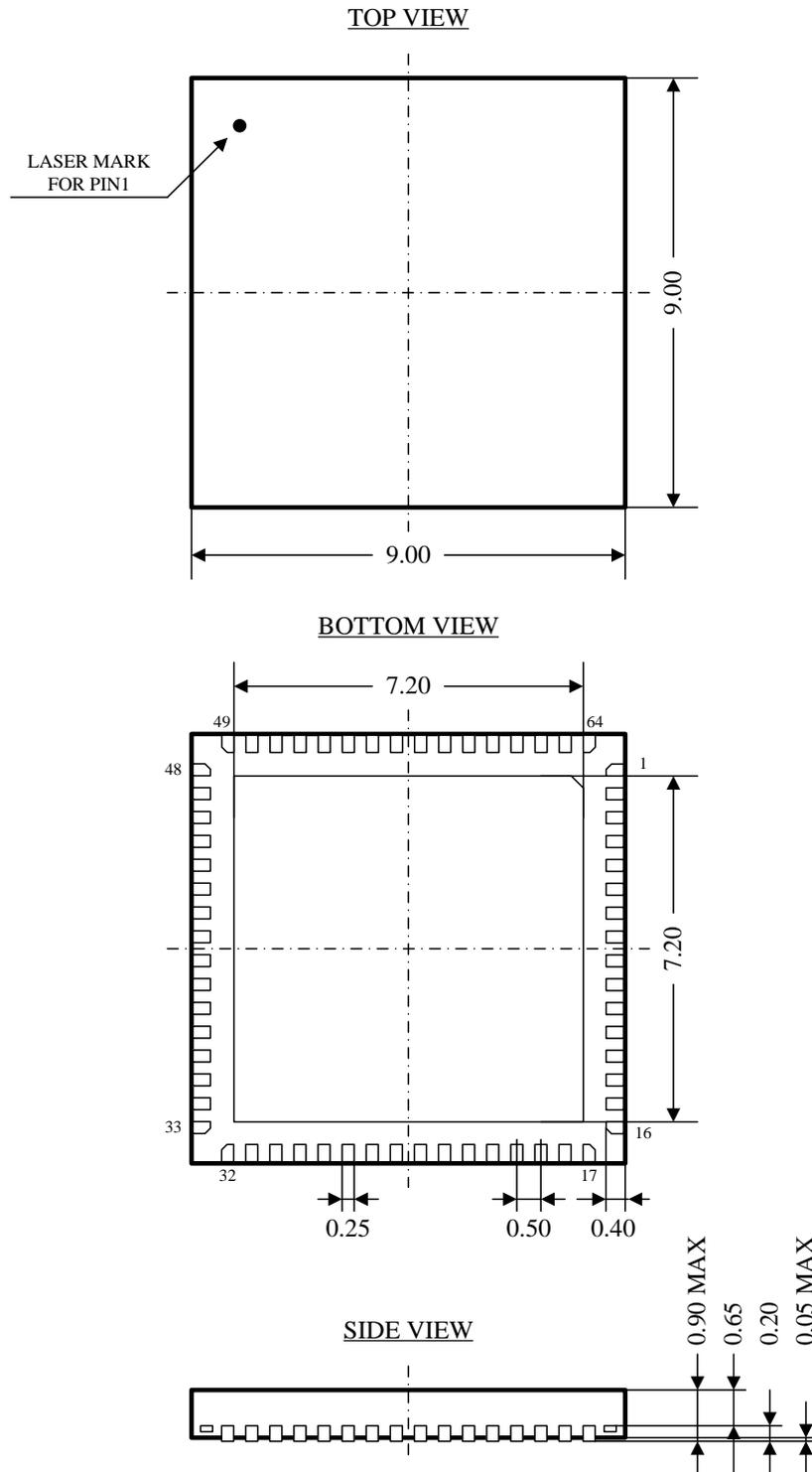
Features

- Color depth selectable:24/32bit
- RGB ↔ YCbCr422 color space conversion function
- Wide frequency range
- AC coupling for high-speed lanes
- CDR requires no external frequency reference
- Wide range supply voltage from 1.7V to 3.6V
- Additional spread spectrum on data stream
- 2-wire serial interface bridge function(400kbps)
- Remote side GPIO control and monitoring
- Low speed data bridge function
- QFN64(9mm x 9mm) with exposed pad ground
- AEC-Q100 Grade 2 support
- V-by-One[®] HS standard version1.4 compliant
- EU RoHS compliant

Block Diagram



Package



Unit : mm

Figure 1. 64-pin QFN package physical dimension

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2. The circuit diagrams described in this material are examples of the application which may not always apply to the customer's design. THine Electronics, Inc. ("THine") is not responsible for possible errors and omissions in this material. Please note even if errors or omissions should be found in this material, THine may not be able to correct them immediately.
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 - 5.2 This product is not intended to be used as an automotive part, unless the product is specified as a product conforming to the demands and specifications of IATF16949 ("the Specified Product") in this data sheet. THine accepts no liability whatsoever for any product other than the Specified Product for it not conforming to the aforementioned demands and specifications.
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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. Testing and other quality control techniques are used to this product to the extent THine deems necessary to support warranty for performance of this product. Except where mandated by applicable law or deemed necessary by THine based on the user's request, testing of all functions and performance of the product is not necessarily performed.
9. 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 Act.
10. The product or peripheral parts may be damaged by a surge in voltage over the absolute maximum ratings or malfunction, if pins of the product are shorted by such as foreign substance. The damages may cause a smoking and ignition. Therefore, you are encouraged to implement safety measures by adding protection devices, such as fuses.

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