



THCV241-Q

SerDes transmitter with bi-directional transceiver

General Description

THCV241-Q is designed to support 1080p60 2Mpixel uncompressed video data over 15m 100ohm differential STP or single-end 50ohm Coaxial cable with 4 in-line connectors between camera and processor by V-by-One® HS.

THCV241-Q supports a MIPI CSI-2. Each CSI-2 data lane can transmit up to 1.2Gbps/lane. Virtual channel is supported.

One high-speed V-by-One® HS lane can transmit up to 1080p60fps. The maximum serial data rate is 4Gbps/lane. 2nd output lane supports HDR large amount of data or data copy-and-distribution experience.

THCV241-Q is capable to control and monitor camera module from remote ECU via GPIO, UART or 1Mbps 2-wire serial interface.

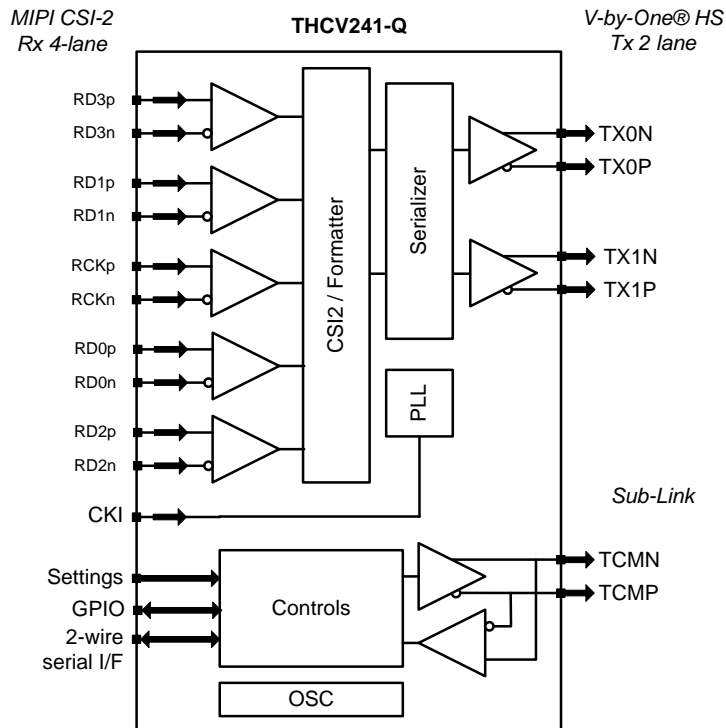
Several fault and error detection function including CRC provides vehicle hardware functional safety design.

Features

- MIPI CSI-2 with 1,2 or 4-lane input
- MIPI D-PHY supports 80Mbps~1.2Gbps
- MIPI Virtual channel supported
- Video formats: RAW8/10/12/14/16/20, YUV422/420, RGB888/666/565, JPEG, User-defined generic 8-bit
- V-by-One® HS 400Mbps~4Gbps x2lane
- V-by-One® HS standard version1.5
- Reference clock input CKI range 10~40MHz shareable with video source CMOS sensor
- Wide range IO voltage from 1.7V to 3.6V
- Additional spread spectrum to reduce EMI
- 2-wire serial interface 1Mbps bridge function
- Remote GPIO/UART control and monitoring
- Error detection including CRC and notification
- QFN40 5x5mm 0.4mm pitch Exp-pad package
- AEC-Q100 Grade 2 (-40 to 105degC)

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Block Diagram



Notices and Requests

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5. Product Application
 - 5.1 Application of this product is intended for and limited to the following applications: audio-video device, office automation device, communication device, consumer electronics, smartphone, feature phone, and amusement machine device. This product must not be used for applications that require extremely high-reliability/safety such as aerospace device, traffic device, transportation device, nuclear power control device, combustion chamber device, medical device related to critical care, or any kind of safety device.
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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 Control Law.
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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