Car Camera Bus Transmitter with Parallel Video Input

ADI Confidential

ADV7990

FEATURES

- C²B transmitter transmits video and bidirectional control data over a differential pair cable up to 30 meters or single-ended cable up to 15 meters
- The parallel video input formats supported include
  - 8- and 10-bit interleaved Y/C data up to 148.5 MHz
  - Embedded (SAV/EAV codes), separate HS/VS/DE or ISP line/frame valid type external timing signals
- HD video formats supported up to 2 megapixels at 30 Hz or 1 megapixel at 60 Hz
- Bidirectional control channel embedded in the C²B link for control and status data between C²B receiver and C²B transmitter
  - Enables remote configuration of the C²B transmitter
- Bidirectional GPIO with either local or remote interfacing possibilities
- On-chip high resolution, high speed DAC, buffer and filtering blocks for video and control channel path
- Transmission of frame count data from ISP to enable the backend ECU or head unit to detect stuck or skipped frames
- Video test pattern generator for easy system testing
- Protection from high voltages encountered during short to battery (STB) fault condition
- Tested to industry standards for automotive EMC/EMI/ESD robustness

SIMPLIFIED FUNCTIONAL BLOCK DIAGRAM

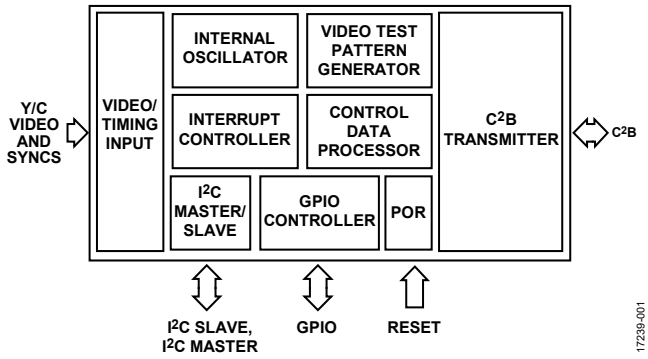

Figure 1.

- General
  - 2-wire serial microprocessor unit (MPU) interface (compatible with I²C) capable of operating in master or slave mode
  - –40°C to +105°C temperature grade
  - 32-lead LFCSP package
  - AEC-Q100 qualified for automotive applications

APPLICATIONS

- Automotive camera modules
- Automotive camera ECUs
- Automotive infotainment head units

Complete technical specifications are available for the C²B transmitters and receivers. Contact c2b_web_support@analog.com to complete the nondisclosure agreement (NDA) required to receive additional product information.

C²B U.S. patents pending.

Rev. Sp0 Document Feedback

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NOTES

I²C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).

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