

### FEATURES

- C<sup>2</sup>B receiver capable of receiving video data and bidirectional control data over a differential pair or single-ended cable**
- MIPI CSI-2 transmitter supporting**
  - 2-lane operation at up to 1 Gbps per lane
  - 1-lane operation at up to 1 Gbps
- HD video formats supported up to 2 megapixels at 30 Hz or 1 megapixel at 60 Hz**
- Bidirectional control channel embedded in the C<sup>2</sup>B link for control and status data between the C<sup>2</sup>B receiver and C<sup>2</sup>B transmitter**
- Enables remote configuration of the C<sup>2</sup>B transmitter**
- Bidirectional GPIO with either local or remote interfacing possibilities**
- On-chip high resolution, high speed ADC, buffer and anti-aliasing filter blocks for video and control channel path**
- Transmission of frame count data from ISP to enable the back-end ECU or HU to detect stuck or skipped frames**
- Video test pattern generator for easy system testing**
- Cable equalizer capable of compensating for cable and connector insertion loss, equivalent to a 30 m twisted pair cable**
- On-chip echo cancellation scheme to prevent visual impact caused by impedance mismatch between cables and connectors**
- Protection from and diagnosis of high voltages encountered during short to battery fault condition**

### SIMPLIFIED FUNCTIONAL BLOCK DIAGRAM

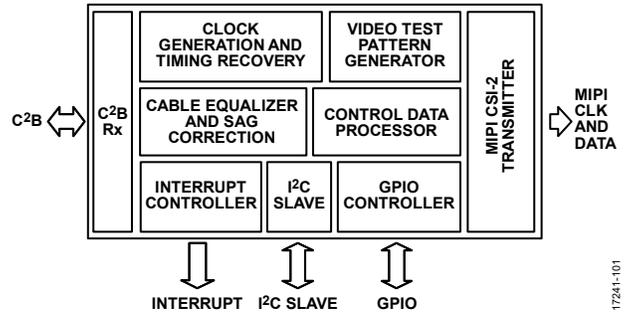


Figure 1.

**Tested to industry standards for automotive EMC, EMI, and ESD robustness**

#### General

- 2-wire serial interface (I<sup>2</sup>C compatible) for configuration of the C<sup>2</sup>B receiver and for communication with a remote C<sup>2</sup>B transmitter and image signal processors**
- Connected I<sup>2</sup>C master must support clock stretching to support remote I<sup>2</sup>C communication over the C<sup>2</sup>B link**
- 40°C to +105°C temperature range**
- 48-lead LFCSP**
- AEC-Q100 qualified for automotive applications**

### APPLICATIONS

- Automotive infotainment HUs**
- Automotive camera ECUs**

Complete technical specifications are available for the C<sup>2</sup>B transmitters and receivers. Contact [c2b\\_web\\_support@analog.com](mailto:c2b_web_support@analog.com) to complete the nondisclosure agreement (NDA) required to receive additional product information.

C<sup>2</sup>B has a U.S. patent pending.



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**NOTES**

I<sup>2</sup>C refers to a communications protocol originally developed by Philips Semiconductors (now NXP Semiconductors).