MAX9286

Quad 1.5Gbps GMSL Deserializer with Coax or STP Input and CSI-2 Output

Integrated GMSL Deserializer Receives and Automatically Synchronizes Video from Up to Four Serializers

📄 NDA Required. Request Full Data Sheet   ⬇ Subscribe   ⓘ Active in Production.

Please check latest availability status for a specific part variant.

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Description

The MAX9286 Gigabit multimedia serial link (GMSL) deserializer receives data from up to four GMSL serializers over 50Ω coax or 100Ω shielded twisted-pair (STP) cables and output data on four CSI-2 lanes. Each serial link has an embedded control channel operating from 9.6kbps to 1Mbps in UART-to-UART, UART-to-I²C, and I²C-to-I²C mode. Using the control channel, a µC can program the serializers, deserializer, and peripheral device registers at any time, independent of video timing. A maskable broadcast write speeds programming of image sensor registers.

For use with longer cables, the deserializer has a programmable cable equalizer and programmable error detection and correction. The serial input meets ISO 10605 and IEC 61000-4-2 ESD standards. The core supply is 1.7V to 1.9V and the I/O supply is 1.7V to 3.6V.

The device is available in lead(Pb)-free, 56-pin, 8mm × 8mm SWTQFN and TQFN packages with exposed pad and 0.5mm lead pitch.

Key Features

- Ideal for Multicamera Stream Applications
  - Works with Low-Cost 50Ω Coax Cable and FAKRA Connectors or 100Ω STP
  - Data from Image Sensors Are Synchronized to the Same Pixel
  - Automatic Internal/External Generation of Camera Sync
  - Equalization Allows 15m Length Cable Operation at Full Speed
- Multiple Input/Output Features for System Flexibility
  - 1 to 4 Lane CSI-2 Output with 80Mbps to 1200Mbps Per Lane
  - Swappable/Selectable Serial Input/Output with Swappable Polarity
  - 9.6kbps to 1Mbps Control Channel in UART, Mixed UART/I²C, or I²C Mode with Clock Stretch Capability
- Peripheral Features for System Power-Up and Verification
  - Built-In PRBS Tester for BER Testing of the Serial Link
  - Programmable Choice of Nine Default Device Addresses
  - Two Dedicated GPIO Ports
  - High-Immunity Mode for Maximum Control-Channel Noise Rejection
- Meets Rigorous Automotive and Industrial

Applications/Uses

- 3D Camera Systems
- Machine Vision Systems
- Surround View Camera Systems

Requirements

- -40°C to +105°C Operating Temperature
- ±8kV Contact, ±20kV Air ISO 10605 and ±8kV Contact, ±12kV IEC 61000-4-2 ESD Protection