



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

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

Applications/Uses

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

KEY SPECS

Part Number	Signal Type	Signal Type	Functions	Rx	Data Rates (Mbps)	V _{SUPPLY} (V)	Package/Pins
	Rx	Tx					

MAX9286	CML CSI-2	CML	Deserializer Quad Deserializer	4	1500	1.8 3.3	TQFN/56
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Note : The failure rates are summarized by technology and mapped to the associated material part numbers. The failure rates are highly dependent on the number of units tested.

Please check latest availability status for a specific part variant.

OVERVIEW	KEY SPECS	DESIGN RESOURCES	QUALITY AND ENVIRONMENTAL	ORDER
Key:  Material Analysis  Non Cancellable Non Reschedulable NLA =No longer available				
Symbols in part number: + Lead-free, RoHS compliant - Not qualified as lead-free RoHS # RoHS compliant, lead exemption * PRICE/UNIT shows budgetary pricing for 1K units. Some parts do not have standard pricing and require a quote.				
Part Number MAX9286GTN/V+	Price /Unit* BUY	Status Active	Carrier Type Tray	Package THIN QFN; 0Pin; 0mm ² ;   See Material Analysis for RoHS info Temp: -40°C to +105°C
Part Number MAX9286GTN/V+T	Price /Unit* BUY	Status Active	Carrier Type Reel	Package THIN QFN; 0Pin; 0mm ² ;   See Material Analysis for RoHS info Temp: -40°C to +105°C
Part Number MAX9286GTN+T	Price /Unit* BUY	Status Active	Carrier Type Reel	Package THIN QFN; 0Pin; 0mm ² ;   See Material Analysis for RoHS info Temp: -40°C to +105°C
Part Number MAX9286RCARH3DB#	Price /Unit* BUY	Status Active	Carrier Type Box	
Part Number MAX9286RCARH2DB#	Price /Unit* BUY	Status Active	Carrier Type Box	
Part Number MAX9286GTN+	Price /Unit* BUY	Status Active	Carrier Type Tray	Package THIN QFN; 0Pin; 0mm ² ;   See Material Analysis for RoHS info Temp: -40°C to +105°C
Part Number MAX9286S32V234DB#	Price /Unit* BUY	Status Active	Carrier Type Box	
Part Number MAX9286ATHENA10DB#	Price /Unit* BUY	Status Active	Carrier Type Box	