
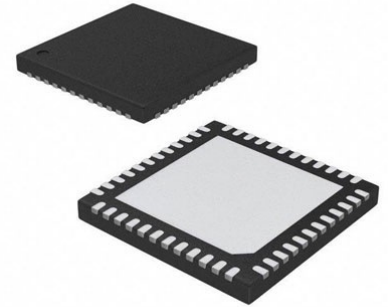


## LVDS Deserializer 1400Mbps Automotive 48-Pin WQFN EP T/R

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>
<b>Package/Case:</b>	WQFN48
<b>Product Type:</b>	Drivers
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	Active



Images are for reference only

[Inquiry](#)

### General Description

The DS90UB91xQ-Q1 chipset offers an FPD-Link III interface with a high-speed forward channel and a bidirectional control channel for data transmission over a single differential pair. The DS90UB91xQ-Q1 chipsets incorporate differential signaling on both the high-speed forward channel and bidirectional control channel data paths. The serializer and deserializer pair is targeted for connections between imagers and video processors in an electronic control unit (ECU). This chipset is ideally suited for driving video data that requires up to 12-bit pixel depth plus two synchronization signals along with bidirectional control channel bus.

There is a multiplexer at the deserializer to choose between two input imagers. The deserializer can have only one active input imager. The primary video transport converts 10- and 12-bit data over a single high-speed serial stream, along with a separate low latency bidirectional control channel transport that accepts control information from an I<sup>2</sup>C port and is independent of video blanking period.

Using TI's embedded-clock technology allows transparent full-duplex communication over a single differential pair, carrying asymmetrical bidirectional control channel information in both directions. This single serial stream simplifies transferring a wide data bus over PCB traces and cable by eliminating the skew problems between parallel data and clock paths. This significantly saves system cost by narrowing paths, which reduces PCB layers, cable width, connector size and pins. In addition, the deserializer inputs provide adaptive equalization to compensate for loss from the media over longer distances. Internal DC-balanced encoding and decoding is used to support AC-coupled interconnects. The Serializer is offered in a 32-pin WQFN package and the deserializer is offered in a 48-pin WQFN package.

## Key Features

10-MHz to 100-MHz Input Pixel Clock Support

Single Differential Pair Interconnect

Programmable Data Payload:  
10-bit Payload up to 100 MHz

12-bit Payload up to 75 MHz

Continuous Low Latency Bidirectional Control  
Interface Channel With I<sup>2</sup>C Support at 400 kHz

2:1 Multiplexer to Choose Between Two Input  
Imagers

Embedded Clock With DC-Balanced Coding to  
Support AC-Coupled Interconnects

Capable of Driving up to 25 Meters Shielded  
Twisted-Pair

Receive Equalizer Automatically Adapts for  
Changes in Cable Loss

Four Dedicated General-Purpose Input/Output  
Pins (GPIO) Available on Both Serializer and  
Deserializer

LOCK Output Reporting Pin and AT-SPEED BIST  
Diagnosis Feature to Validate Link Integrity

1.8-V, 2.8-V or 3.3-V Compatible Parallel Inputs  
on Serializer

Single Power Supply at 1.8 V

ISO 10605 and IEC 61000-4-2 ESD Compliant

Automotive-Grade Product: AEC-Q100 Grade 2  
Qualified

Temperature Range 40°C to +105°C

Small Serializer Footprint (5 mm × 5 mm)

EMI/EMC Mitigation on Deserializer  
Programmable Spread Spectrum (SSCG)  
Outputs

Receiver Staggered Outputs

## Recommended For You

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### SN65LVDS3486D

Texas Instruments, Inc

SOP-16

### SN65LVDS3487D

Texas Instruments, Inc

SOP16

### DS90C032TM

Texas Instruments, Inc

SOP16

**DS90C031BTM**

Texas Instruments, Inc  
SOP16

**SN65LVDS31PW**

Texas Instruments, Inc  
TSSOP-16

**SN65LVDS33D**

Texas Instruments, Inc  
SOP-16

**SN65LVDS32D**

Texas Instruments, Inc  
SOP-16

**SN65LVDS31D**

Texas Instruments, Inc  
SOP

**SN65LVDS32PW**

Texas Instruments, Inc  
TSSOP16

**DS90UB954TRGZIQ1**

Texas Instruments, Inc  
QFN48

**DS90UB954TRGZRQ1**

Texas Instruments, Inc  
VQFN48

**SN65DSI83TPAPRQ1**

Texas Instruments, Inc  
HTQFP-64

**DS90UB947TRGCTQ1**

Texas Instruments, Inc  
VQFN-64

**DS90LV011AQMF/NOPB**

Texas Instruments, Inc  
SOT23-5

**DS90UB924TRHSTQ1**

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WQFN-48