


LVDS Serializer 4160Mbps Automotive 32-Pin VQFN EP T/R

Manufacturer:	Texas Instruments, Inc
Package/Case:	VQFN32
Product Type:	Drivers
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The DS90UB953-Q1 serializer is part of TI's FPD-Link III device family designed to support high-speed raw data sensors including 2.3MP imagers at 60-fps and as well as 4MP, 30-fps cameras, satellite RADAR, LIDAR, and Time-of-Flight (ToF) sensors. The chip delivers a 4.16-Gbps forward channel and an ultra-low latency, 50-Mbps bidirectional control channel and supports power over a single coax (PoC) or STP cable. The DS90UB953-Q1 features advanced data protection and diagnostic features to support ADAS and autonomous driving. Together with a companion deserializer, the DS90UB953-Q1 delivers precise multi-camera sensor clock and sensor synchronization.

The DS90UB953-Q1 is fully AEC-Q100 qualified with a -40°C to 105°C wide temperature range. The serializer comes in a small 5-mm × 5-mm VQFN package for space-constrained sensor applications.

Key Features

AEC-Q100 qualified for automotive applications:

Device temperature Grade 2: -40°C to +105°C ambient operating temperature

ISO 10605 and IEC 61000-4-2 ESD compliant

Power-over-Coax (PoC) compatible transceiver

4.16-Gbps grade serializer supports high-speed sensors including full HD 1080p 2.3MP 60-fps and 4MP 30-fps imagers

D-PHY v1.2 and CSI-2 v1.3 compliant system interface

Up to 4 data lanes at 832 Mbps per each lane

Supports up to four virtual channels

Precision multi-camera clocking and synchronization

Flexible programmable output clock generator

Advanced data protection and diagnostics including CRC data protection, sensor data integrity check, I2C write protection, voltage and temperature measurement, programmable alarm, and line fault detection

Supports Single-ended coaxial or shielded-twisted-pair (STP) cable

Ultra-low latency bidirectional I2C and GPIO control channel enables ISP control from ECU

Single 1.8-V power supply

Low (0.25 W typical) power consumption

Functional Safety-Capable

Documentation available to aid ISO 26262 system design

Compatible with DS90UB954-Q1, DS90UB964-Q1, DS90UB962-Q1, DS90UB936-Q1, DS90UB960-Q1, DS90UB934-Q1, and DS90UB914A-Q1 deserializers

Wide temperature range: -40°C to 105°C

Small 5-mm × 5-mm VQFN package and PoC solution size for compact camera module designs

Recommended For You

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

DS90UB954TRGZTQ1

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

Texas Instruments, Inc
WQFN-48