

Voltage Level Translator 4-CH Bidirectional Automotive 14-Pin TSSOP T/R

Manufacturer:	Texas Instruments, Inc	<input type="text" value="TXS0104EQPWRQ1 Image"/>
Package/Case:	TSSOP14	Images are for reference only
Product Type:	Logic ICs	<input type="button" value="Inquiry"/>
RoHS:	RoHS Compliant/Lead free 	
Lifecycle:	Active	

General Description

The TXS0104E-Q1 device connects an incompatible logic communication from chip-to-chip due to voltage mismatch. This auto-direction translator can be conveniently used to bridge the gap without the need of direction control from the host. Each channel can be mixed and matched with different output types (open-drain or push-pull) and mixed data flows (transmit or receive) without intervention from the host. This 4-bit noninverting translator uses two separate configurable power-supply rails. The A and B ports are designed to track V_{CCA} and V_{CCB} respectively. The V_{CCB} pin accepts any supply voltage from 2.3 V to 5.5 V while the V_{CCA} pin accepts any supply voltage from 1.65 V to 3.6 V such that V_{CCA} is less than or equal to V_{CCB} . This tracking allows for low-voltage bidirectional translation between any of the 1.8-V, 2.5-V, 3.3-V, and 5-V voltage nodes.

When the output-enable (OE) input is low, all outputs are placed in the high-impedance state.

The TXS0104E-Q1 device is designed so that the OE input circuit is supplied by V_{CCA} .

To ensure the high-impedance state during power up or power down, the OE pin must be tied to the GND pin through a pulldown resistor; the minimum value of the resistor is determined by the current-sourcing capability of the driver.

For all available packages, see the orderable addendum at the end of the data sheet.

Key Features

Qualified for Automotive Applications

AEC-Q100 Qualified With the Following Results:

Device Temperature Grade 1: -40°C to $+125^{\circ}\text{C}$ Ambient Operating Temperature Range

Device HBM ESD Classification Level 2

Device CDM ESD Classification Level C6

No Direction-Control Signal Required

Maximum Data Rates

24 Mbps Maximum (Push Pull)

2 Mbps (Open Drain)

1.65 V to 3.6 V on A port and 2.3 V to 5.5 V on B port ($V_{CCA} \leq V_{CCB}$)

No Power-Supply Sequencing Required— V_{CCA} or V_{CCB} Can Be Ramped First

ESD Protection Exceeds JESD 22

A Port

2000-V Human-Body Model(A114-B)

1000-V Charged-Device Model (C101)

B Port

15-kV Human-Body Model(A114-B)

1000-V Charged-Device Model (C101)

IEC 61000-4-2 ESD (B Port)

± 8 -kV Contact Discharge

± 10 -kV Air-Gap Discharge

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Description

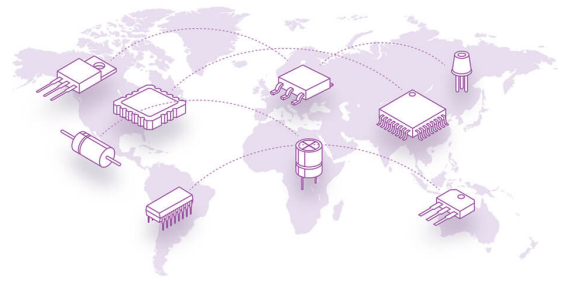
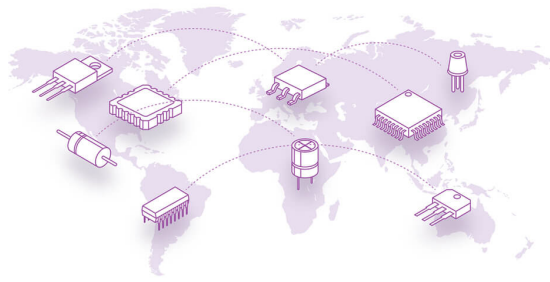
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Recommended For You

TXB0102YZPR

Texas Instruments, Inc

DSBGA-8

TXB0102DCUR

Texas Instruments, Inc

VSSOP8

TXS0104EDR

Texas Instruments, Inc

SOP14

TXB0108PWR

Texas Instruments, Inc

TSSOP20

TXS0104EPWR

Texas Instruments, Inc

TSSOP14

TXS0102QDCURQ1

Texas Instruments, Inc

VSSOP8

TXB0104QRGYRQ1

Texas Instruments, Inc

VQFN14

TXB0104QRUTRQ1

Texas Instruments, Inc

UQFN12

TXS0102DCTT

Texas Instruments, Inc

SSOP8

TXS0102DCUT

Texas Instruments, Inc

VSSOP8

TXS0102YZPR

Texas Instruments, Inc

DSBGA-8

TXB0104QPWRQ1

Texas Instruments, Inc

TSSOP14

TXS0104ED

Texas Instruments, Inc

SOP14

TXB0101DRLR

Texas Instruments, Inc

SOT563

TXB0101DBVR

Texas Instruments, Inc

SOT23