

Voltage Level Translator 4-CH Bidirectional Automotive 12-Pin UQFN T/R

Manufacturer:	Texas Instruments, Inc	<input type="text" value="TXB0104QRUTRQ1 Image"/>
Package/Case:	UQFN12	Images are for reference only
Product Type:	Logic ICs	<input type="button" value="Inquiry"/>
RoHS:	RoHS Compliant/Lead free 	
Lifecycle:	Active	

General Description

Voltage-level translators address the challenges posed by simultaneous use of different supply-voltage levels on the same circuit board. This 4-bit non-inverting translator uses two separate configurable power-supply rails. The A port is designed to track V_{CCA} . V_{CCA} accepts any supply voltage from 1.2 V to 3.6 V. The B port is designed to track V_{CCB} . V_{CCB} accepts any supply voltage from 1.65 V to 5.5 V. This allows for universal low-voltage bidirectional translation between any of the 1.2-V, 1.5-V, 1.8-V, 2.5-V, 3.3-V, and 5-V voltage nodes. V_{CCA} should not exceed V_{CCB} .

When the output-enable (OE) input is low, all outputs are placed in the high-impedance state. To ensure the high-impedance state during power up or power down, OE should be tied to GND through a pulldown resistor; the minimum value of the resistor is determined by the current-sourcing capability of the driver. The TXB0104 is designed so that the OE input circuit is supplied by V_{CCA} .

This device is fully specified for partial-power-down applications using I_{off} . The I_{off} circuitry disables the outputs, preventing damaging current backflow through the device when it is powered down.

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

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

V_{CC} Isolation Feature – If Either V_{CC}
Input is at GND, All Outputs are in the High-Impedance State

OE Input Circuit Referenced to V_{CCA}

I_{off} Supports Partial-Power-Down Mode Operation

Latch-Up Performance Exceeds 100 mA Per JESD 78, Class II

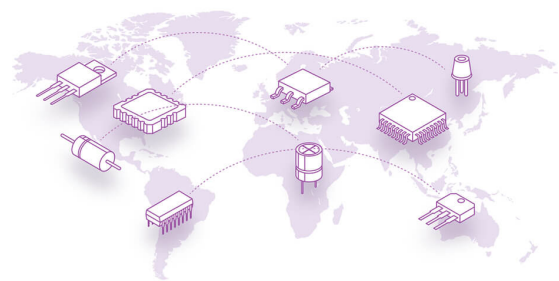
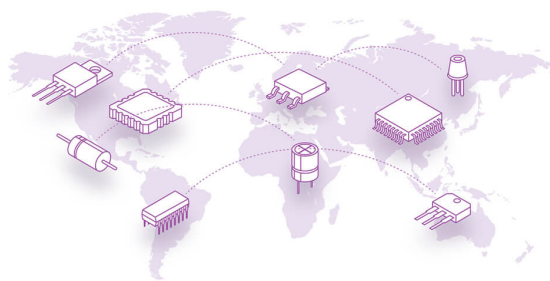
ESD Protection Exceeds JESD 22

A port
 $\pm 2500\text{-V}$ Human-Body Model (A114-B)

$\pm 1000\text{-V}$ Charged-Device Model (C101)

B port
 $\pm 15000\text{-V}$ Human-Body Model (A114-B)

$\pm 1000\text{-V}$ Charged-Device Model (C101)



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

TXS0104EQPWRQ1

Texas Instruments, Inc
TSSOP14

TXB0104QRCYRQ1

Texas Instruments, Inc
VQFN14

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