SN74LVC2T45DCUR

Voltage Level Translator 2-CH Bidirectional 8-Pin VSSOP T/R

Manufacturer:	Texas Instruments, Inc
Package/Case:	VSSOP8
Product Type:	Logic ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active

Images are for reference only

Inquiry

General Description

This dual-bit noninverting bus transceiver uses two separate configurable power-supplyrails. The A port is designed to track VCCA. VCCAaccepts any supply voltage from 1.65 V to 5.5 V. The B port is designed to trackVCCB. VCCB accepts any supply voltage from 1.65 V to5.5 V. This allows for universal low-voltage bidirectional translation between any of the 1.8-V,2.5-V, 3.3-V, and 5-V voltage nodes.

The SN74LVC2T45 is designed for asynchronous communication between two data buses. Thelogic levels of the direction-control (DIR) input activate either the B-port outputs or the A-portoutputs. The device transmits data from the A bus to the B bus when the B-port outputs areactivated, and from the B bus to the A bus when the A-port outputs are activated. The inputcircuitry on both A and B ports always is active and must have a logic HIGH or LOW level applied toprevent excess ICC and ICCZ.

The SN74LVC2T45 is designed so that the DIR input circuit is supplied byVCCA. This device is fully specified for partial-power-down applicationsusing Ioff. The Ioff circuitry disables the outputs,preventing damaging current backflow through the device when it is powered down.

The VCC isolation feature ensures that if eitherVCC input is at GND, both ports are in the high-impedance state. NanoFreepackage technology is a major breakthrough in IC packaging concepts, using the die as thepackage.

Key Features

Fully Configurable Dual-Rail Design Allows Each Port to Operate Over the Full1.65-V to 5.5-V Power-Supply Range

VCC Isolation Feature – If Either VCCInput Is at GND, Both Ports Are in the High-Impedance State

DIR Input Circuit Referenced to VCCA

Low Power Consumption, 4-µA Max ICC

Available in the Texas Instruments NanoFree? Package

±24-mA Output Drive at 3.3 V

Ioff Supports Partial-Power-Down Mode Operation

Max Data Rates
420 Mbps (3.3-V to 5-V Translation)

210 Mbps (Translate to 3.3 V)

140 Mbps (Translate to 2.5 V)

75 Mbps (Translate to 1.8 V)

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

ESD Protection Exceeds JESD 22
4000-V Human-Body Model (A114-A)

200-V Machine Model (A115-A)

1000-V Charged-Device Model (C101)

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Recommended For You

SN74S38N

Texas Instruments, Inc

DIP

SN7438N

Texas Instruments, Inc

DIP14

SN75462P

Texas Instruments, Inc

DIP8

SN74F08D

Texas Instruments, Inc

SOP-14

SN74LS257BN

Texas Instruments, Inc

DIP16

SN75452BP

Texas Instruments, Inc

DIP8

SN74LS245DW

Texas Instruments, Inc

SOP20

SN74LS74AN

Texas Instruments, Inc

DIP

SN74S74N

Texas Instruments, Inc

DIP

SN7406N

Texas Instruments, Inc

DIP-14

SN74CBTLV3257D

Texas Instruments, Inc

SOP-16P

SN74HC138DR

Texas Instruments, Inc

SOP16

SN74LS14N

Texas Instruments, Inc

DIP

SN74HC139N

Texas Instruments, Inc

DIP

SN74AVC16T245DGGR

Texas Instruments, Inc

TSSOP48