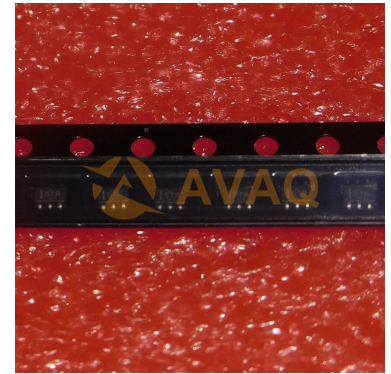


Voltage Level Translator 1-CH Bidirectional Automotive 6-Pin SC-70 T/R



Images are for reference only

[Inquiry](#)

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: SC70-6

Product Type: Logic ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

General Description

The SN74LVC1T45-Q1 device is a single-bit, noninverting bus transceiver that uses two separate configurable power supply rails. The A-port is designed to track V_{CCA} . V_{CCA} accepts any supply voltage from 1.65 V to 5.5 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 1.8-V, 2.5-V, 3.3-V, and 5-V voltage nodes.

The SN74LVC1T45-Q1 device is a single-bit, non-inverting level translator. The fully configurable dual-rail design allows each port to operate over the full 1.65-V to 5.5-V power supply range. It is ideal for applications that need a wide bidirectional translation range.

The SN74LVC1T45-Q1 is designed so that the DIR input is powered 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.

The VCC isolation feature assures that if either VCC input is at GND, then both ports are in the high-impedance state.

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 H2

Device CDM ESD Classification Level C3B

Fully configurable dual-rail design allows each port to operate over the full 1.65-V to 5.5-V power-supply range

V

CC

CC

DIR input circuit referenced to V

CCA

I

off

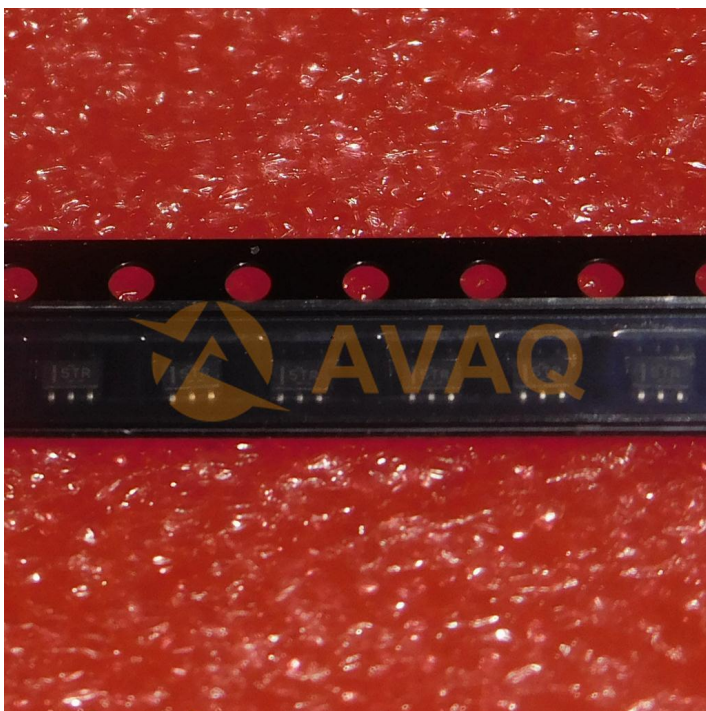
Maximum data rates:

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)



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

SN74CBILV3257D

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