New Product Announcement

74AVC1T45

74AVC1T45 Single Bit Voltage Translator

The 74AVC1T45 is a single-bit, dual-supply transceiver with 3-state outputs suitable for transmitting a single logic bit across different voltage domains.

The A input/output pin is designed to track V_{CCA} while the B input/output tracks V_{CCB}. This arrangement allows for universal low-voltage translation between any voltages from 1.2 V to 3.6 V.

The direction of the transceiver is controlled by the Direction pin (DIR) that has logic threshold voltages related to V_{CCA}. When a high logic level is applied to DIR the A pin becomes an input and the B pin becomes the output.

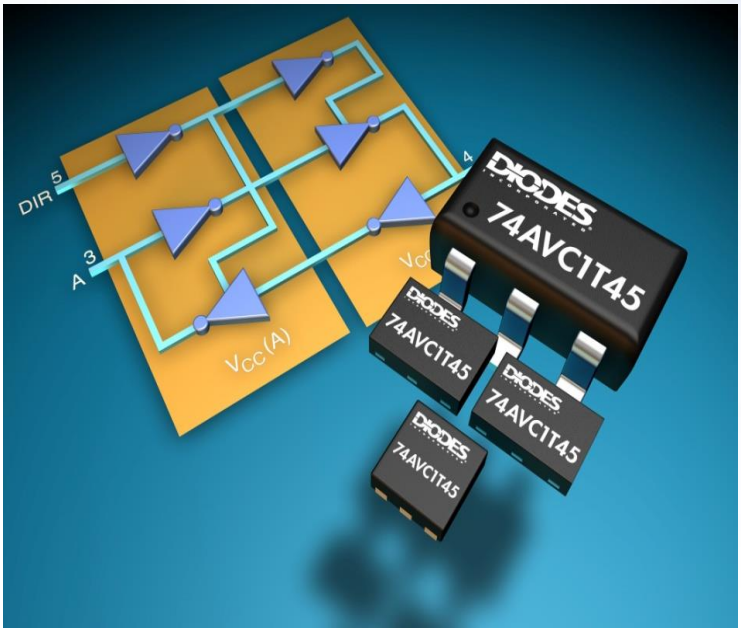
Conversely the roles of A and B are reversed when DIR is asserted low.

Features:

- 1.2 to 3.6 V operation
- Power Down Isolation
- Translation rate:
  >500 Mbits / Second 1.8V to 3.6V
  >240 Mbits / Second 1.8V to 1.2V

Packages:

- SOT26
- SOT363
- X1-DFN1010-6
- X2-DFN1010-6
- X2-DFN1409-6
- X2-DFN-1410-6



The Diodes Advantage

- **New Package to replace Chip Scale**
  The X2-DFN1409-6 is a package designed to replace Chip Scale devices. The package is more mechanically robust and cost-effective than chip scale.
- **Noise Rejection Circuitry**
  All of the devices in this release include a small amount of input hysteresis, making them less susceptible to problems from slow rising or falling signals.
- **Better Suited for Translation from 1.8 V to 3 V**
  The translation rate is 2X that of the LVC type product in the 1.8V to 3V translation range.

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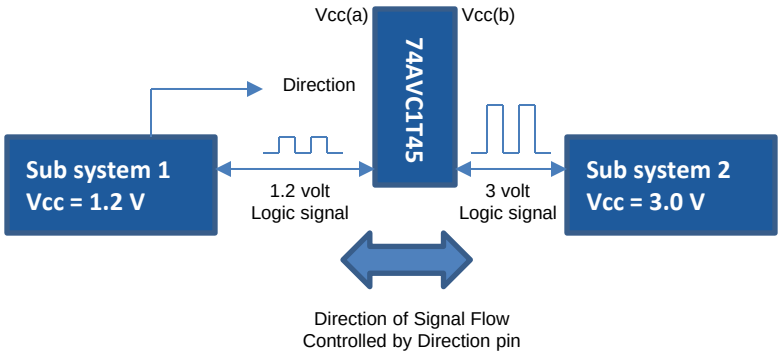
74AVC1T45 Cross Reference

Diodes Device	Package	Description	TI	NXP
74AVC1T45W6-7	SOT26	Single Bit Dual Power Supply Translating Transceiver with 3 State Outputs	SN74AVC1T45DCKR	
74AVC1T45DW-7	SOT363		SN74AVC1T45DVBR	74AVC1T45GW
74AVC1T45FW3-7	X2-DFN0910-6			74AVC1T45GN
74AVC1T45FW5-7	X1-DFN1010-6			74AVC1T45GS
74AVC1T45FZ4-7	X2-DFN1410-6			74AVC1T45GM
74AVC1T45FX4-7	X2-DFN1409-6		74AVC1T45YZPR*	

*DFN1409 is an alternative package for chip scale applications.

Applications 74AVC1T45



The 74AVC1T45 is used to translate logic signals between different voltage domains.

In this example Vcc(a) is set at 1.2V and Vcc(b) to 3.0V. Logic signals can now be transferred accurately between subsystems.

The threshold of the direction pin is controlled by Vcc(a).

This configuration is capable of 240M bits per second.

Ordering Information

Device	Package	Reel size	Tape Width	Quantity
74AVC1T45W6-7	SOT26	7”	8mm	3000
74AVC1T45DW-7	SOT363	7”	8mm	3000
74AVC1T45FW3-7	X2-DFN0910-6	7”	8mm	5000
74AVC1T45FW5-7	X1-DFN1010-6	7”	8mm	5000
74AVC1T45FZ4-7	X2-DFN1410-6	7”	8mm	5000
74AVC1T45FX4-7	X2-DFN1409-6	7”	8mm	5000

All devices are:
Lead-Free & Fully RoHS compliant
Halogen and Antimony Free.“Green” Device
See http://www.diodes.com/quality/lead_free.html