



New Product Announcement

74LVC2T45
74LVCH2T45

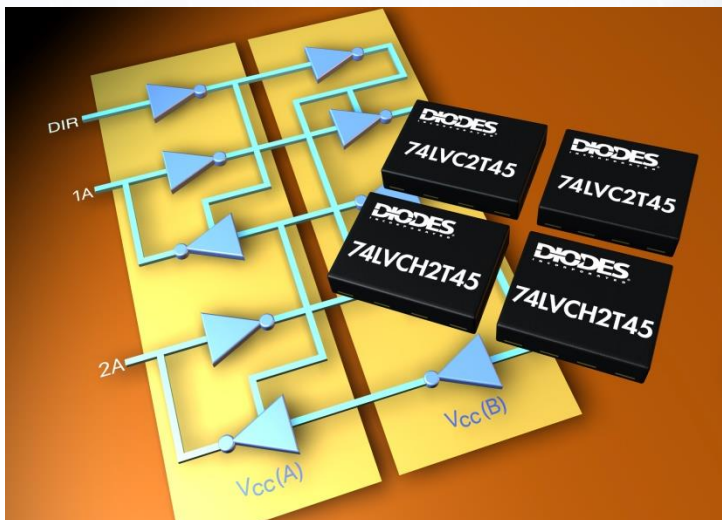
2-Bit Dual Supply Voltage Translators for Bidirectional Logic Level Translation

The 74LVC2T45 and 74LVCH2T45 provide logic levels voltage translation between devices that operate from different supply rails. The 74LVC(H)2T45 have dual power supplies and allow translation between 1.2V and 5.5V.

The direction pin (DIR) and Port A consist of pins 1A and 2A and have logic levels in relation to $V_{CC}(A)$. Port B consists of pins 1B and 2B and has logic levels related to $V_{CC}(B)$. When a HIGH logic level is applied to the direction pin, the port A pins become inputs and the port B pins become outputs. Conversely, the roles of the ports are reversed when the direction pin is asserted LOW.

If either of the power supplies are at zero volts, all ports go into a high impedance state and allow for power down signal isolation. The 74LVCH2T45 is a variant that includes a bus-hold feature at each input, maintaining the previous logic level and ensuring a valid logic level is always present. This eliminates the need for additional resistors for unused or disconnected inputs.

Both are available in the tiny X2-DFN1210-8 and X2-DFN-1410-8 packages.



The Diodes Advantage

- Automatic Bus Disconnection**
 If either V_{CC} is at zero volts, all bus pins are placed in the high impedance state
- Noise Rejection Circuitry**
 All of the devices include a small amount of input hysteresis, making them less susceptible to problems from slow rising or falling signals
- Bus Hold – 74LVCH**
 I/O pins held at the last Input state, eliminating the need for input resistors to mitigate floating input issues
- Tiny X2-DFN1210-8 and X2-DFN-1410-8 packages**
 occupying less than 1.4mm x 1mm PCB area with less than 0.6mm height make them ideal for portable and high density applications

Application(s):

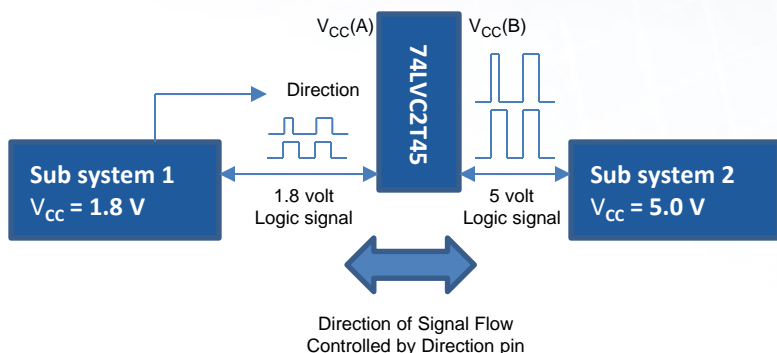
- Cell Phones, Tablets, and E-Readers
- PCs, Notebooks, and Ultrabooks
- Networking, Routers, and Gateways
- TV, DVD, DVR and Set-Top Boxes
- Personal Navigation/GPS
- MP3 Players and Cameras



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Application 74LVC2T45



The 74LVC2T45 is used to translate logic signals between different voltage domains.

In this example, $V_{CC}(A)$ is set at 1.8 V and $V_{CC}(B)$ to 5.0V. Logic signals can now be transferred accurately between subsystems.

The threshold of the direction pin is controlled by $V_{CC}(A)$.

This configuration is capable of 60M bits per second.

Translator Product Portfolio

Part Number	Translator Description	Translation Range		Output Current (mA)	Packages
		VCC Min (V)	VCC Max (V)		
74AVC1T45	Single Bit	1.2	3.6	12	SOT26 (SC74R), SOT363, X2-DFN0910-6, X2-DFN1409-6, X2-DFN1410-6
74AVCH1T45	Single Bit with Bus Hold				SOT363, X2-DFN0910-6, X2-DFN1409-6, X2-DFN1410-6
74LVC1T45	Single Bit	1.65	5.5	24	X2-DFN1010-6, X2-DFN1409-6, X2-DFN1410-6
74LVC2T45	2-bit				X2-DFN1210-8, X2-DFN1410-8
74LVCH2T45	2-bit with Bus Hold				X2-DFN1210-8, X2-DFN1410-8

Ordering Information

Diodes Device	Translator Description	Package	Reel Size	Tape Width	Reel Quantity
74LVC2T45RA3-7	2-bit	X2-DFN1210-8	7"	8mm	5000
74LVC2T45HK3-7		X2-DFN1410-8			
74LVCH2T45RA3-7	2-bit with Bus Hold	X2-DFN1210-8	7"	8mm	5000
74LVCH2T45HK3-7		X2-DFN1410-8			