

## Product Overview

### MC74VHCT32A: Quad 2-Input OR Gate / CMOS Logic Level Shifter with LSTTL-Compatible Inputs

For complete documentation, see the data sheet.

The MC74VHCT32A is an advanced high speed CMOS 2-input OR gate fabricated with silicon gate CMOS technology. It achieves high speed operation similar to equivalent Bipolar Schottky TTL while maintaining CMOS low power dissipation. The internal circuit is composed of three stages, including a buffer output which provides high noise immunity and stable output. The device input is compatible with TTL-type input thresholds and the output has a full 5V CMOS level output swing. The input protection circuitry on this device allows overvoltage tolerance on the input, allowing the device to be used as a logic-level translator from 3.0V CMOS logic to 5.0V CMOS Logic or from 1.8V CMOS logic to 3.0V CMOS Logic while operating at the high-voltage power supply. The MC74VHCT32A input structure provides protection when voltages up to 7V are applied, regardless of the supply voltage. This allows the MC74VHCT32A to be used to interface 5V circuits to 3V circuits. The output structures also provide protection when VCC = 0V. These input and output structures help prevent device destruction caused by supply voltage - input/output voltage mismatch, battery backup, hot insertion, etc.

### Features

- High Speed:  $t_{PD} = 3.8\text{ns}$  (Typ) at VCC = 5V
- Low Power Dissipation:  $I_{CC} = 2\text{mA}$  (Max) at TA = 25°C
- TTL-Compatible Inputs:  $V_{IL} = 0.8\text{V}$ ;  $V_{IH} = 2.0\text{V}$
- Power Down Protection Provided on Inputs
- Balanced Propagation Delays
- Designed for 2V to 5.5V Operating Range
- Low Noise:  $V_{OLP} = 0.8\text{V}$  (Max)
- Pin and Function Compatible with Other Standard Logic Families
- Latchup Performance Exceeds 300mA
- ESD Performance: HBM > 2000V; Machine Model > 200V

For more features, see the data sheet

### Part Electrical Specifications

Product	Compliance	Status	Type	Channels	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	t <sub>pd</sub> Max (ns)	I <sub>O</sub> Max (mA)	Package Type
MC74VHCT32ADR2G	Pb-free	Active	OR	4	2	5.5	null	null	SOIC-14
	Halide free								
MC74VHCT32ADTR2G	Pb-free	Active	OR	4	2	5.5	null	null	TSSOP-14
	Halide free								
NLV74VHCT32ADTR2G	AEC Qualified	Active	OR	4	2	5.5	null	null	TSSOP-14
	PPAP Capable								
	Pb-free								
	Halide free								

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

Created on: 9/19/2019