

Product Overview

MC74VHC1GT50: Single Non-Inverting Buffer, TTL Level

For complete documentation, see the data sheet.

The MC74VHC1GT50 is a single gate noninverting buffer fabricated with silicon gate CMOS technology. It achieves high speed operation 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 low threshold input thresholds and the output has a full 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 1.65 V logic to 5.5V CMOS

The MC74VHC1GT50 input structure provides protection for input voltages up to 7V, regardless of the supply voltage. The output structures also provide protection when $V_{CC} = 0V$. 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: $t_{PD} = 3.5ns$ (Typ) at $V_{CC} = 5V$
- Low Power Dissipation: $I_{CC} = 1\mu A$ (Max) at $T_A = 25^\circ C$
- Low threshold Inputs, TTL compatible if $V_{CC} = 5V$: $V_{IL} = 0.8V$; $V_{IH} = 2.0V$
- CMOS-Compatible Outputs: $V_{OH} > 0.8V_{CC}$; $V_{OL} < 0.1V_{CC}$ @Load
- Power Down Protection Provided on Inputs and Outputs
- Balanced Propagation Delays
- Pin and Function Compatible with Other Standard Logic Families
- Chip Complexity: FETs = 104; Equivalent Gates = 26
- Pb-Free Packages are Available

Part Electrical Specifications

Product	Compliance	Status	Channels	Output	V_{CC} Min (V)	V_{CC} Max (V)	t_{pd} Max (ns)	I_O Max (mA)	Package Type
M74VHC1GT50DFT1G	Pb-free	Active	1	CMOS	1.65	5.5	7.7	8	SC-88A / SC-70-5
	Halide free								
M74VHC1GT50DFT2G	Pb-free	Active	1	CMOS	1.65	5.5	7.7	8	SC-88A / SC-70-5
	Halide free								
M74VHC1GT50DFT1G	Pb-free	Active	1	CMOS	1.65	5.5	7.7	8	TSOP-5 / SOT-23-5
	Halide free								
NL17VHC1GT50DF1G	Pb-free	Active	1	CMOS	1.65	5.5	7.7	8	SC-88A / SC-70-5
	Halide free								
NLV74VHC1GT50DFT1G	AEC Qualified	Active	1	CMOS	1.65	5.5	7.7	8	TSOP-5 / SOT-23-5
	PPAP Capable								
	Pb-free								
	Halide free								
NLVVHC1GT50DFT1G	AEC Qualified	Active	1	CMOS	1.65	5.5	7.7	8	SC-88A / SC-70-5
	PPAP Capable								
	Pb-free								
	Halide free								
NLVVHC1GT50DFT2G	AEC Qualified	Active	1	CMOS	1.65	5.5	7.7	8	SC-88A / SC-70-5
	PPAP Capable								
	Pb-free								
	Halide free								

For more information please contact your local sales support at www.onsemi.com.

Created on: 1/16/2019