

## 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 5.5V, regardless of the supply voltage. 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:  $t_{PD} = 3.5\text{ns}$  (Typ) at VCC = 5V
- Low Power Dissipation:  $I_{CC} = 1\mu\text{A}$  (Max) at TA = 25°C
- Low threshold Inputs, TTL compatible if Vcc= 5 V:  $V_{IL} = 0.8\text{V}$ ;  $V_{IH} = 2.0\text{V}$
- CMOS-Compatible Outputs:  $V_{OH} > 0.8V_{CC}$  ;  $V_{OL} \text{ CC @Load}$
- Power Down Protection Provided on Inputs and Outputs
- Balanced Propagation Delays
- Pin and Function Compatible with Other Standard Logic Families
- Chip Complexity: FETs = 3/4 100
- Pb-Free Packages are Available

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Channels	Output	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
M74VHC1GT50DFT1G	0.0467	Pb-free Halide free non AEC-Q and PPAP	Active	1	CMOS	2	5.5	7.5	8	SC-88A / SC-70-5
M74VHC1GT50DFT2G	0.0467	Pb-free Halide free non AEC-Q and PPAP	Active	1	CMOS	2	5.5	7.5	8	SC-88A / SC-70-5
M74VHC1GT50DTT1G	0.0667	Pb-free Halide free non AEC-Q and PPAP	Active	1	CMOS	2	5.5	7.5	8	TSOP-5 / SOT-23-5
MC74VHC1GT50DBV T1G	0.0227	Pb-free Halide free non AEC-Q and PPAP	Active	1	CMOS	2	5.5	7.5	8	SC-74A
MC74VHC1GT50MU1 TCG	0.1013	Pb-free Halide free non AEC-Q and PPAP	Active	1	CMOS	2	5.5	7.5	8	UDFN-6
MC74VHC1GT50MU2 TCG		Pb-free Halide free non AEC-Q and PPAP	Product Preview	1	CMOS	2	5.5	7.5	8	UDFN-6
MC74VHC1GT50XV5T 2G	0.06	Pb-free Halide free non AEC-Q and PPAP	Active	1	CMOS	2	5.5	7.5	8	SOT-553
NLV74VHC1GT50DTT 1G	0.132	AEC Qualified PPAP Capable Pb-free Halide free	Active	1	CMOS	2	5.5	7.5	8	TSOP-5 / SOT-23-5
NLVVHC1GT50DFT1G	0.1333	AEC Qualified PPAP Capable Pb-free Halide free	Active	1	CMOS	2	5.5	7.5	8	SC-88A / SC-70-5
NLVVHC1GT50DFT2G		AEC Qualified PPAP Capable Pb-free Halide free	Active	1	CMOS	2	5.5	7.5	8	SC-88A / SC-70-5

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Created on: 10/27/2021