

Product Overview

74VHC00: Quad 2-Input NAND Gate

For complete documentation, see the data sheet.

The VHC00 is an advanced high-speed CMOS 2-Input NAND Gate fabricated with silicon gate CMOS technology. It achieves the high-speed operation similar to equivalent Bipolar Schottky TTL while maintaining the CMOS low power dissipation. The internal circuit is composed of 3 stages, including buffer output, which provide high noise immunity and stable output. An input protection circuit insures that 0V to 7V can be applied to the input pins without regard to the supply voltage. This device can be used to interface 5V to 3V systems and two supply systems such as battery backup. This circuit prevents device destruction due to mismatched supply and input voltages.

Features

- High Speed: $t_{PD} = 3.7\text{ns}$ (typ) at $T_A = 25^\circ\text{C}$
- High noise immunity: $V_{NIH} = V_{NIL} = 28\% V_{CC}$ (min)
- Power down protection is provided on all inputs
- Low noise: $V_{OLP} = 0.8\text{V}$ (max)
- Low power dissipation: $I_{CC} = 2 \mu\text{A}$ (max) at $T_A = 25^\circ\text{C}$
- Pin and function compatible with 74HC00

Applications

- This product is general usage and suitable for many different applications.

Part Electrical Specifications

Product	Compliance	Status	Type	Channels	V_{CC} Min (V)	V_{CC} Max (V)	t_{pd} Max (ns)	I_O Max (mA)	Package Type
74VHC00M	Pb-free	Active	NAND	4	2	5.5	3.7	8	SOIC-14
	Halide free								
74VHC00MTC	Pb-free	Active	NAND	4	2	5.5	3.7	8	TSSOP-14 WB
	Halide free								
74VHC00MTCX	Pb-free	Active	NAND	4	2	5.5	3.7	8	TSSOP-14 WB
	Halide free								
74VHC00MX	Pb-free	Active	NAND	4	2	5.5	3.7	8	SOIC-14
	Halide free								
74VHC00SJX	Pb-free	Active	NAND	4	2	5.5	3.7	8	SOP-14

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