

DATA SHEET

For a complete data sheet, please also download:

- The IC04 LOCMOS HE4000B Logic Family Specifications HEF, HEC
- The IC04 LOCMOS HE4000B Logic Package Outlines/Information HEF, HEC

HEF4011B

gates

Quadruple 2-input NAND gate

Product specification
File under Integrated Circuits, IC04

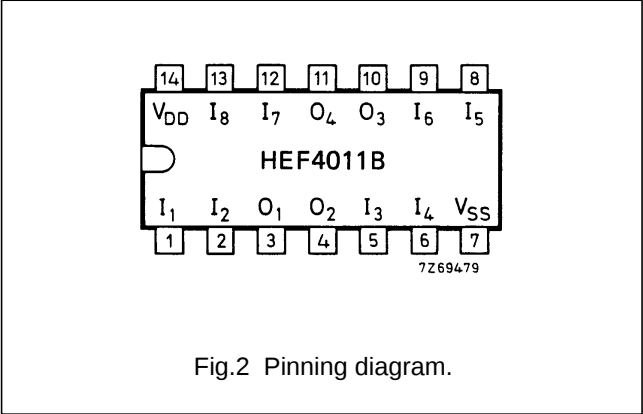
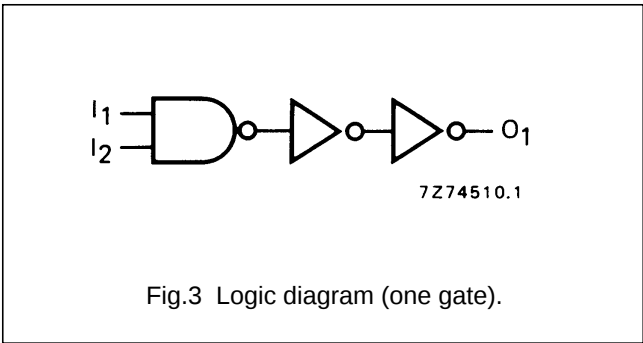
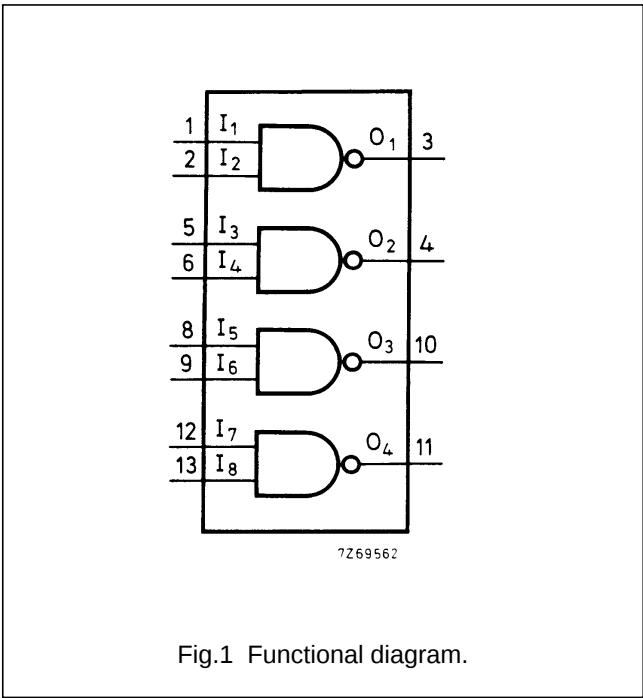
January 1995

Quadruple 2-input NAND gate

HEF4011B
gates

DESCRIPTION

The HEF4011B provides the positive quadruple 2-input NAND function. The outputs are fully buffered for highest noise immunity and pattern insensitivity of output impedance.



- HEF4011BP(N): 14-lead DIL; plastic (SOT27-1)
- HEF4011BD(F): 14-lead DIL; ceramic (cerdip) (SOT73)
- HEF4011BT(D): 14-lead SO; plastic (SOT108-1)
- (): Package Designator North America

FAMILY DATA, I_{DD} LIMITS category GATES

See Family Specifications

Quadruple 2-input NAND gate

HEF4011B gates

AC CHARACTERISTICS

$V_{SS} = 0\text{ V}$; $T_{amb} = 25\text{ °C}$; $C_L = 50\text{ pF}$; input transition times $\leq 20\text{ ns}$

	V_{DD} V	SYMBOL	TYP	MAX		TYPICAL EXTRAPOLATION FORMULA
Propagation delays $I_n \rightarrow O_n$	5	$t_{PHL}; t_{PLH}$	55	110	ns	28 ns + (0,55 ns/pF) C_L
	10		25	45	ns	14 ns + (0,23 ns/pF) C_L
	15		20	35	ns	12 ns + (0,16 ns/pF) C_L
Output transition times HIGH to LOW	5	t_{THL}	60	120	ns	10 ns + (1,0 ns/pF) C_L
	10		30	60	ns	9 ns + (0,42 ns/pF) C_L
	15		20	40	ns	6 ns + (0,28 ns/pF) C_L
LOW to HIGH	5	t_{TLH}	60	120	ns	10 ns + (1,0 ns/pF) C_L
	10		30	60	ns	9 ns + (0,42 ns/pF) C_L
	15		20	40	ns	6 ns + (0,28 ns/pF) C_L

	V_{DD} V	TYPICAL FORMULA FOR P (μW)	
Dynamic power dissipation per package (P)	5	$1300 f_i + \sum (f_o C_L) \times V_{DD}^2$	where f_i = input freq. (MHz) f_o = output freq. (MHz) C_L = load capacitance (pF) $\sum (f_o C_L)$ = sum of outputs V_{DD} = supply voltage (V)
	10	$6000 f_i + \sum (f_o C_L) \times V_{DD}^2$	
	15	$20\ 100 f_i + \sum (f_o C_L) \times V_{DD}^2$	