

MN74HC266/MN74HC266S

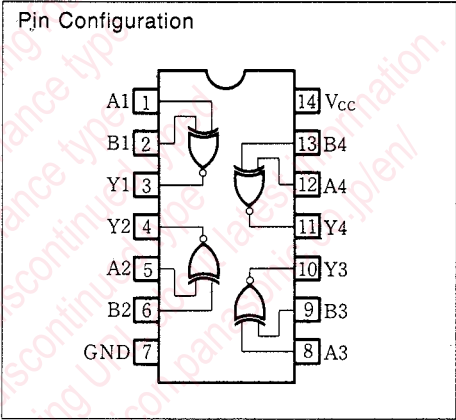
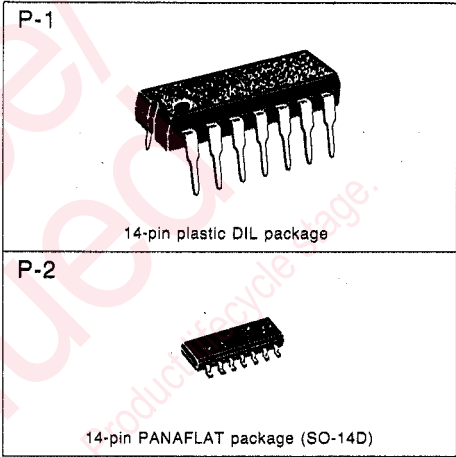
Quad 2-Input Exclusive NOR Gates

Outline

The MN74HC266/MN74HC266S is constituted by 2-input exclusive NOR gates having four built-in circuits in one chip. Owing to the silicon gate CMOS process, these NOR gates have realized low power consumption and high noise immunity equivalent to those of a standard CMOS and the operation speed as high as of an LS TTL. The respective output can directly drive ten LS TTL inputs.

To protect the input and output against electrostatic breakdown, a resistor and a diode are used for the V_{CC} and the GND. The pin configuration and the function are the same as those of the standard 54LS/74LS logic family.

Logic Diagram (1 Gate)



Absolute Maximum Ratings

Item			Symbol	Rating	Unit
Supply voltage			V _{CC}	-0.5~+7.0	V
Input output voltage			V _I , V _O	-0.5~V _{CC} +0.5	V
Input protective diode current			I _{IK}	±20	mA
Output parasitic diode current			I _{OK}	±20	mA
Output current			I _O	±25	mA
Supply current			I _{CC} , I _{GND}	±50	mA
Storage temperature			T _{stg}	-65~+150	°C
Power dissipation	MN74HC266	T _a = -40~+60°C	P _D	400	mW
		T _a = +60~+85°C		Decrease to 200mW at the rate of 8mW/°C	
	MN74HC266S	T _a = -40~+60°C	P _D	275	mW
		T _a = +60~+85°C		Decrease to 200mW at the rate of 3.8mW/°C	

■ Recommended Operating Conditions

Item	Symbol	V _{CC} (V)	Rating	Unit
Operating power supply voltage	V _{CC}		1.4~6.0	V
Input output voltage	V _I , V _O		0~V _{CC}	V
Operating temperature	T _A		-40~+85	°C
Input rise, fall time	t _r , t _f	2.0	0~1000	ns
		4.5	0~500	ns
		6.0	0~400	ns

■ DC Characteristics (GND=0V)

Item	Symbol	V _{CC} (V)	Test Condition			Temperature					Unit
			V _I	I _O	Unit	Ta=25°C			Ta=-40~+85°C		
						min.	typ.	max.	min.	max.	
Input voltage high level	V _{IH}	2.0				1.5			1.5		V
		4.5				3.15			3.15		
		6.0				4.2			4.2		
Input voltage low level	V _{IL}	2.0						0.3		0.3	V
		4.5						0.9		0.9	
		6.0						1.2		1.2	
Output voltage high level	V _{OH}	2.0		-20.0	μA	1.9	2.0		1.9		V
		4.5	V _{IH}	-20.0	μA	4.4	4.5		4.4		
		6.0	or	-20.0	μA	5.9	6.0		5.9		
		4.5	V _{IL}	-4.0	mA	3.92			3.84		
		6.0		-5.2	mA	5.48			5.34		
Output voltage low level	V _{OL}	2.0		20.0	μA		0.0	0.1		0.1	V
		4.5	V _{IH}	20.0	μA		0.0	0.1		0.1	
		6.0	or	20.0	μA		0.0	0.1		0.1	
		4.5	V _{IL}	4.0	mA			0.26		0.33	
		6.0		5.2	mA			0.26		0.33	
Input leakage current	I _I	6.0	V _I =V _{CC} or GND					±0.1		±1.0	μA
Static supply current	I _{CC}	6.0	V _I =V _{CC} or GND, I _O =0					2.0		20.0	μA

■ AC Characteristics (GND=0V, Input transition time ≤ 6ns, C_L=50pF)

Item	Symbol	V _{CC} (V)	Test Condition	Temperature					Unit
				Ta=25°C			Ta=-40~+85°C		
				min.	typ.	max.	min.	max.	
Output rise time	t _{TLH}	2.0			25	75		95	ns
		4.5			8	15		19	
		6.0			7	13		16	
Output fall time	t _{THL}	2.0			20	75		95	ns
		4.5			7	15		19	
		6.0			6	13		16	
Propagation time (L→H)	t _{PLH}	2.0			25	75		95	ns
		4.5			8	15		19	
		6.0			7	13		16	
Propagation time (H→L)	t _{PHL}	2.0			25	75		95	ns
		4.5			8	15		19	
		6.0			7	13		16	

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