DN74LS266 N74LS266

Quad 2-input Exclusive NOR Gates (with Open Collector Outputs)

■ Description

DN74LS266 contains four 2-input exclusive NOR gate circuits with open collector outputs.

■ Features

- "Wired" AND capability
- Low power consumption (P_d = 40mW typical)
- Wide operating temperature range (Ta = −20 to +75°C)

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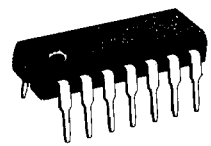

14-pin plastic DIL package

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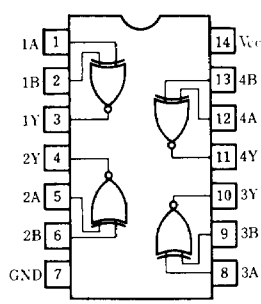
14-pin Panaflat package (SO-14D)

■ Truth tables

Inputs		Outputs
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	H

Notes:
1. H: HIGH voltage level
2. L: LOW voltage level

Pin configuration (top view)



■ Recommended operating conditions

Parameter	Sym	Min	Typ	Max	Unit
Supply voltage	V_{CC}	4.75	5.00	5.25	V
HIGH level output voltage	V_{OH}			5.5	V
LOW level output voltage	I_{OL}			8	mA
Operating temperature range	Topr	−20	25	75	℃

■ DC characteristics ($Ta = -20 \sim +75℃$)

Parameter	Sym	Test conditions		Min	Typ*	Max	Unit
Input voltage	V_{IH}			2.0			V
	V_{IL}					0.8	V
Output voltage	V_{OL1}	$V_{CC}=4.75V$, $V_{IH}=2V$, $V_{IL}=0.8V$	$I_{OL}=4mA$		0.25	0.4	V
	V_{OL2}		$I_{OL}=8mA$		0.35	0.5	V
Input current	I_{IH}	$V_{CC}=5.25V$, $V_I=2.7V$				40	μA
	I_{IL}	$V_{CC}=5.25V$, $V_I=0.4V$				−0.8	mA
	I_I	$V_{CC}=5.25V$, $V_I=7V$				0.2	mA
Output current	I_{OH}	$V_{CC}=4.75V$, $V_{OH}=5.5V$, $V_{IH}=2V$, $V_{IL}=0.8V$				100	μA
Input clamp voltage	V_{IK}	$V_{CC}=4.75V$, $I_I=-18mA$				−1.5	mA
Supply current**	I_{CC}	$V_{CC}=5.25V$			8	13	V

* When constant at V_{CC} = 5V, Ta = 25°C.

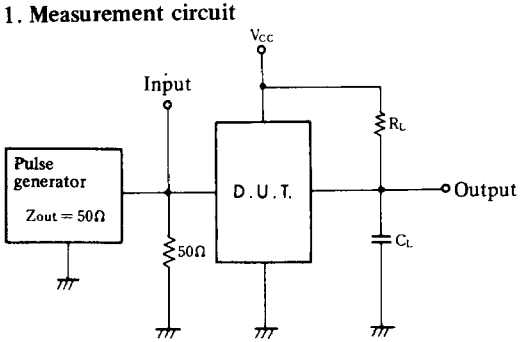
** Measured with all outputs open and input on one side of each gate grounded while 4.5V is applied to the other side.

■ Switching characteristics ($V_{CC}=5V$, $Ta=25℃$)

Parameter	Sym	Inputs	Test conditions		Min	Typ	Max	Unit
Propagation delay time	t_{PLH}	A or B	other input Low	$C_L=15pF$, $R_L=2k\Omega$		18	30	ns
	t_{PHL}					18	30	ns
	t_{PLH}	A or B	other input Low			18	30	ns
	t_{PHL}					18	30	ns

※ Switching parameter measurement information

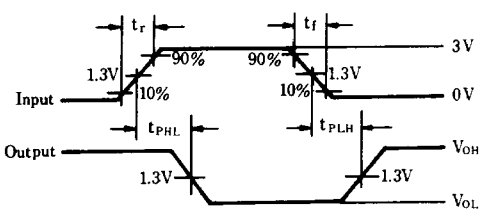
1. Measurement circuit



Notes

1. C_L includes probe and tool floating capacitance.
2. Diodes are all MA161.

2. Waveforms



Notes

1. Input waveform: $t_r \leq 15ns$, $t_f \leq 6ns$, PRR = 1MHz, duty cycle = 50%.