NTE74LS86
Integrated Circuit
TTL – Quad 2–Input Exclusive–OR Gate

Absolute Maximum Ratings: (Note 1)

Supply Voltage, V_{CC} 7V
Input Voltage 7V
Total Power Dissipation 30.5mW
Operating Temperature Range, T_A .... 0°C to +70°C
Storage Temperature Range, T_{stg} .... −65°C to +150°C

Note 1. Voltage values are with respect to network ground terminal.

Recommended Operating Conditions:

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	4.75	5.0	5.25	V
High−Level Output Current	I_{OH}	–	–	−400	μA
Low−Level Output Current	I_{OL}	–	–	8	mA
Operating Temperature Range	T_A	0	–	+70	°C

Electrical Characteristics: (Note 2, Note 3)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
High−Level Voltage	V_{IH}			2	–	–	V
Low−Level Voltage	V_{IL}			–	–	0.8	V
Input Clamp Voltage	V_{IK}	V_{CC} = MIN, I_I = −18mA		–	–	−1.5	V
High−Level Output Voltage	V_{OH}	V_{CC} = MIN, V_{IH} = 2V, V_{IL} = MAX, I_{OH} = −400μA		2.7	3.4		V
Low−Level Output Voltage	V_{OL}	V_{CC} = MIN, V_{IH} = 2V, V_{IL} = MAX	I_{OL} = 4mA	–	0.25	0.4	V
			I_{OL} = 8mA	–	0.35	0.5	V
Input Current	I_I	V_{CC} = MAX, V_I = 7V		–	–	0.2	mA
High−Level Input Current	I_{IH}	V_{CC} = MAX, V_I = 2.7V		–	–	40	μA
Low−Level Input Current	I_{IL}	V_{CC} = MAX, V_I = 0.4V		–	–	−0.8	mA
Short−Circuit Output Current	I_{OS}	V_{CC} = MAX, Note 4		−20	–	−100	mA
Supply Current	I_{CC}	V_{CC} = MAX, Note 5		–	6.1	10	mA

Note 2. .For conditions shown as MIN or MAX, use the appropriate value specified under "Recommended Operation Conditions".
Note 3. All typical values are at V_{CC} = 5V, T_A = +25°C.
Note 4. Not more than one output should be shorted at a time.
Note 5. I_{CC} is measured with the inputs grounded and the outputs open.

Switching Characteristics: (V_CC = 5V, T_A = +25°C unless otherwise specified)

$V_{CC} = 5V$, $T_A = +25°C$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Propagation Delay Time (From A or B Input)	t_{PLH}	Other Input Low	$R_L = 2k\Omega$, $C_L = 15pF$	–	12	23	ns
	t_{PHL}			–	10	17	ns
Propagation Delay Time (From A or B Input)	t_{PLH}	Other Input High		–	20	30	ns
	t_{PHL}			–	13	22	ns

Function Tables:

Inputs		Output
A	**B**	**Y**
L	L	L
L	H	H
H	L	H
H	H	L

H = High level
L = Low Level

Pin Connection Diagram

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        1A  1 ┌──┬──┐ 14  V_CC
        1B  2 │     │ 13  4B
        1Y  3 │     │ 12  4A
        2A  4 │     │ 11  4Y
        2B  5 │     │ 10  3B
        2Y  6 │     │  9  3A
       GND  7 └─────┘  8  3Y
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14   8

1   7

.785 (19.95) Max

.200
(5.08)
Max

.300 (7.62)

.100 (2.45)

.099 (2.5) Min

.600 (15.24)