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NTE74H51
Integrated Circuit
TTL – High Speed,
Dual 2–Wide 2–Input AND/OR Invert Gate
14–Lead DIP

Recommended Operating Conditions:

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	4.75	5.0	5.25	V
Operating Temperature Range	T_A	0	+25	+70	°C
Input Loading for Each Input		–	–	1.25	U.L.

Electrical Characteristics: (Note 1, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Input HIGH Voltage	V_{IH}	Guaranteed Input HIGH Voltage, Note 4		2.0	–	–	V
Input LOW Voltage	V_{IL}	Guaranteed Input LOW Voltage, Note 5		–	–	0.8	V
Output HIGH Voltage	V_{OH}	V_{CC} – MIN, I_{OH} = –0.5mA, V_{IN} = 0.8V		2.4	–	–	V
Output LOW Voltage	V_{OL}	V_{CC} = MIN, I_{OH} = 20mA, V_{IN} = 2.0V		–	–	0.4	V
Input HIGH Current	I_{IH}	V_{CC} = MAX, V_{IN} = 2.4V	Each Input	–	–	50	μA
		V_{CC} = MAX, V_{IN} = 5.5V		–	–	1.0	mA
Input LOW Current	I_{IL}	V_{CC} = MAX, V_{IN} = 0.4V, Each Input		–	–	–2.0	mA
Output Short Circuit Current	I_{OS}	V_{CC} = MAX, Note 3		–40	–	–100	mA
Supply Current HIGH	I_{CCH}	V_{CC} = MAX, V_{IN} = 0V		–	8.2	12.8	mA
Supply Current LOW	I_{CCL}	V_{CC} = MAX, V_{IN} = 4.5V		–	15.2	24	mA

Note 1. For conditions shown as MIN. or MAX., use the appropriate value specified under the “Recommended Operating Conditions”.

Note 2. Typical limits are at V_{CC} = 5.0V, +25°C.

Note 3. Not more than one output should be shorted at a time, and duration of short–circuit test should not exceed 1 second.

Note 4. Required at both input terminals of either AND section to ensure LOW level at output.

Note 5. Required at one input terminal of each AND section to ensure HIGH level at output.

Switching Characteristics: (V_{CC} = 5V, C_L = 25pF, R_L = 280Ω, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn–Off Delay Input to Output	t_{PLH}		–	6.8	11	ns
Turn–On Delay Input to Output	t_{PHL}		–	6.2	11	ns
Turn–Off Delay Input to Output	t_{PLH}	C_X = 15pF	–	11	–	ns
Turn–On Delay Input to Output	t_{PHL}		–	7.4	–	ns

Pin Connection Diagram