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NTE74LS365A
Integrated Circuit
TTL – Hex Bus Driver with 3–State Outputs

Description:

The NTE74LS365A is a hex bus driver in a 16–Lead plastic DIP type package designed specifically to improve both the performance and density of three–state memory address drivers, clock drivers, and bus oriented receivers and transmitters. The designer has a choice of selected combinations of inverting and non–inverting outputs, symmetrical $\overline{G}$ (active–low control) inputs.

This device features high fan–out, improved fan–in, and can be used to drive terminated lines down to 133 ohms.

Features:

- 3–State Outputs Drive Bus Lines or Buffer Memory Address Registers
- Non–Inverting Outputs

Absolute Maximum Ratings: (Note 1)

Supply Voltage, V_{CC} 7V
DC Input Voltage, V_{IN} 7V
Voltage Applied to Disable 3–State Output 5.5V
Operating Temperature Range, T_A . . . . . 0°C to +70°C
Storage Temperature Range, T_{stg} . . . . . –65°C to +150°C

Note 1. Unless otherwise specified, all voltages are referenced to GND.

Recommended Operating Conditions:

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	4.75	5.0	5.25	V
High–Level Input Voltage	V_{IH}	2	–	–	V
Low–Level Input Voltage	V_{IL}	–	–	0.8	V
High–Level Output Current	I_{OH}	–	–	–2.6	mA
Low–Level Output Current	I_{OL}	–	–	24	mA
Operating Temperature Range	T_A	0	–	+70	°C

Electrical Characteristics: (Note 2, Note 3)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
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} = MAX		2.4	3.1		V
Low Level Output Voltage	V_{OL}	V_{CC} = MIN, V_{IH} = 2V, V_{IL} = MAX	I_{OL} = 12mA	–	0.25	0.4	V
			I_{OL} = 24mA	–	0.35	0.5	V
Off−State Output Current	I_{OZ}	V_{CC} = MAX, V_{IH} = 2V	V_O = 2.4V	–	–	20	μA
			V_O = 0.4V	–	–	−20	μA
Input Current	I_I	V_{CC} = MAX, V_I = 7V		–	–	0.1	mA
High Level Input Current	I_{IH}	V_{CC} = MAX, V_I = 2.7V		–	–	20	μA
Low Level Input Current A Inputs	I_{IL}	V_{CC} = MAX, V_I = 0.5V, Either $\overline{G}$ Input at 2V		–	–	−20	μA
		V_{CC} = MAX, V_I = 0.4V, Both $\overline{G}$ Input at 0.4V		–	–	−0.4	mA
$\overline{G}$ Inputs		V_{CC} = MAX, V_I = 0.4V		–	–	−0.2	mA
Short−Circuit Output Current	I_{OS}	V_{CC} = MAX, Note 4		−40	–	−225	mA
Supply Current	I_{CC}	V_{CC} = MAX, Data Outputs = 0V, Output Controls = 4.5V		–	14	24	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, and duration of the short−circuit should not exceed one second.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Propagation Delay Time (From Any Input to Y Output)	t_{PLH}	R_L = 667Ω, C_L = 45pF	–	10	16	ns
	t_{PHL}		–	9	22	ns
Output Enable Time (From Any Input to Y Output)	t_{PZH}		–	19	35	ns
	t_{PZL}		–	24	40	ns
Output Disable Time (From Any Input to Y Output)	t_{PHZ}	R_L = 667Ω, C_L = 5pF	–	–	30	ns
	t_{PLZ}		–	–	35	ns

Pin Connection Diagram