ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089
http://www.nteinc.com

NTE74LS14
Integrated Circuit
TTL – Hex Schmitt Trigger Inverter

Description:

The NTE74LS14 is a hex Schmitt trigger inverter in a 14–Lead plastic DIP type package. The device is temperature–compensated and can be triggered from the slowest of input ramps and still give clean, jitter–free output signals.

Features:

- Operation from Very Slow Edges
- Improved Line–Receiving Characteristics
- High Noise Immunity

Absolute Maximum Ratings: (Note 1)

Supply Voltage, V_{CC} 7V
DC Input Voltage, V_{IN} 7V
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 Output Current	I_{OH}	–	–	–0.4	mA
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
Positive−Going Threshold Voltage	V_{T+}	V_{CC} = 5V	1.4	1.6	1.9	V
Negative−Going Threshold Voltage	V_{T-}	V_{CC} = 5V	0.5	0.8	1.0	V
Hysteresis Voltage	V_H	V_{CC} = 5V	0.4	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_I = 0.5V, I_{OH} = −0.4mA	2.7	3.4	–	V
Low Level Output Voltage	V_{OL}	V_{CC} = MIN, V_I = 1.9V, I_{OL} = 4mA	–	0.25	0.4	V
		V_{CC} = MIN, V_I = 1.9V, I_{OL} = 8mA	–	0.35	0.5	V
Positive−Going Threshold Current	I_{T+}	V_{CC} = 5V, V_I = V_{T+}	–	–0.14	–	mA
Negative−Going Threshold Current	I_{T-}	V_{CC} = 5V, V_I = V_{T-}	–	–0.18	–	mA
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	I_{IL}	V_{CC} = MAX, V_I = 0.4V	–	–	−0.4	mA
Short−Circuit Output Current	I_{OS}	V_{CC} = MAX, Note 4	−20	–	−100	mA
High Level Supply Current	I_{CCH}	V_{CC} = MAX	–	8.6	16	mA
Low Level Supply Current	I_{CCL}	V_{CC} = MAX	–	12	21	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.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Propagation Delay Time From A Input to Y Output)	t_{PLH}, t_{PHL}	R_L = 2kΩ, C_L = 15pF	–	15	22	ns

Pin Connection Diagram