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NTE74LS279
Integrated Circuit
TTL – Quad Set–Reset Latch

Description:

The NTE74LS279 offers 4 basic $\overline{S}$–$\overline{R}$ flip–flop latches in a 16–Lead plastic DIP type package. Under conventional operation, the $\overline{S}$–$\overline{R}$ inputs are normally held high. When the $\overline{S}$ input is pulsed low, the Q output will be set high. When $\overline{R}$ is pulsed low, the Q output will be reset low. Normally, the $\overline{S}$–$\overline{R}$ inputs should not be taken low simultaneously. The Q output will be unpredictable in this condition.

Absolute Maximum Ratings: (Note 1)

Supply Voltage, V_{CC} 7V
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 Voltage	V_{OH}	2	–	–	V
Low–Level Output Voltage	V_{OL}	–	–	0.8	V
High–Level Output Current	I_{OH}	–	–	–0.4	mA
Low–Level Output Current	I_{OL}	–	–	8	mA
Pulse Duration, Low	t_w	20	–	–	ns
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_{IL} = MAX, I_{OH} = −0.4mA		2.7	3.4	–	V
Low Level Output Voltage	V_{OL}	V_{CC} = MIN, V_{IH} = 2V	I_{OL} = 4mA	–	0.25	0.4	V
			I_{OL} = 8mA	–	0.25	0.5	V
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		–	–	−0.2	mA
Short−Circuit Output Current	I_{OS}	V_{CC} = MAX, Note 4		−20	–	−100	mA
Supply Current	I_{CC}	V_{CC} = MAX, Note 5		–	3.8	7	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 the duration of the short−circuit should not exceed one second.

Note 5. I_{CC} is measured with all R inputs grounded, all S inputs at 4.5V and all outputs open.

Switching Characteristics: (V_{CC} = 5V, R_L = 667Ω, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Propagation Delay Time (From $\overline{S}$ Input to Q Output)	t_{PLH}	R_L = 2kΩ, C_L = 15pF	–	12	22	ns
	t_{PHL}		–	13	21	ns
Propagation Delay Time (From $\overline{R}$ Input to Q Output)	t_{PHL}		–	15	27	ns

Function Table:

Inputs		Output
$\overline{S}$ †	$\overline{R}$	Q
H	H	Q_0
L	H	H
H	L	L
L	L	H *

H = HIGH Level

L = LOW Level

Q_0 = The level of Q before the indicated input conditions were established.

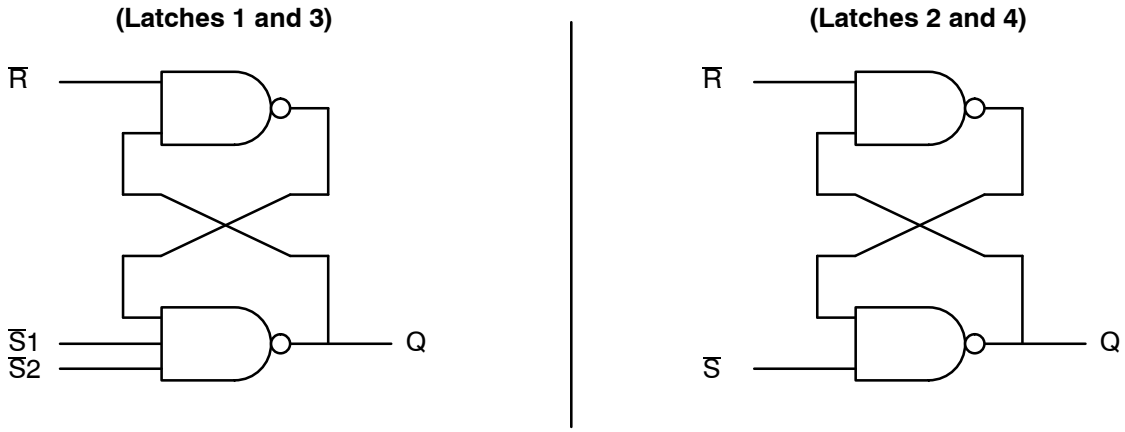
* This configuration is nonstable; that is, it may not persist when the $\overline{S}$ and $\overline{R}$ inputs return to their inactive (high) level.

† For latches with double S inputs:

H = Both $\overline{S}$ inputs high

L = One or both $\overline{S}$ inputs low

Logic Diagram



Pin Connection Diagram