

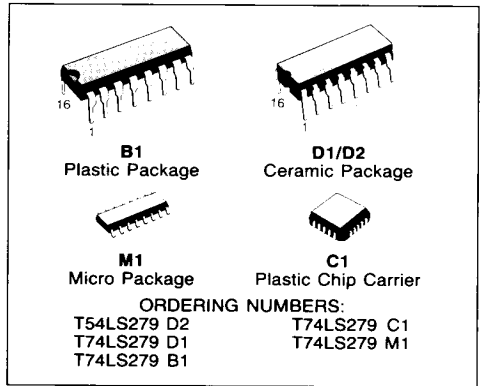


**T54LS279
T74LS279**

QUAD SET-RESET LATCH

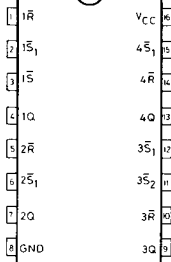
DESCRIPTION

The T54LS279/T74LS279 is a high speed QUAD SET-RESET LATCH fabricated in LOW POWER SCHOTTKY TECHNOLOGY.

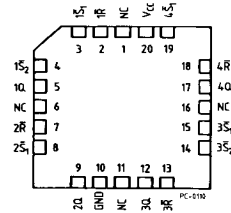


PIN CONNECTION (top view)

DUAL IN LINE



CHIP CARRIER



NC = No Internal Connection

TRUTH TABLE

INPUTS			OUTPUT (Q)
\bar{S}_1	\bar{S}_2	\bar{R}	
L	L	L	h
L	X	H	H
X	L	H	H
H	H	L	L
H	H	H	No Change

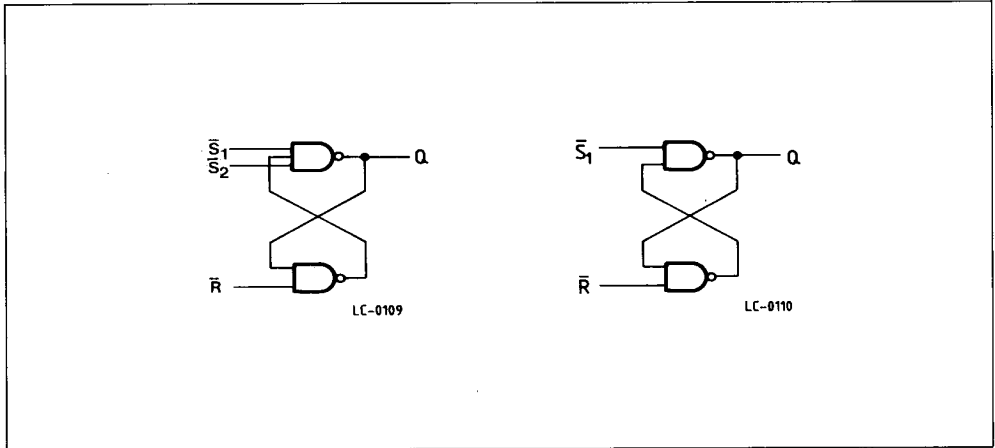
L = LOW Voltage Level

H = HIGH Voltage Level

X = Don't Care

h = The output is HIGH as long as S_1 or S_2 is LOW. If all inputs go HIGH simultaneously, the output state is indeterminate, otherwise, it follows the Truth Table.

LOGIC DIAGRAMS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	-0.5 to 7	V
V_I	Input Voltage, Applied to Input	-0.5 to 15	V
V_O	Output Voltage, Applied to Output	-0.5 to 10	V
I_I	Input Current, Into Inputs	-30 to 5	mA
I_O	Output Current, Into Outputs	50	mA

Stresses in excess of those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions in excess of those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

GUARANTEED OPERATING RANGES

Part Numbers	Supply Voltage			Temperature
	Min	Typ	Max	
T54LS279D2	4.5 V	5.0 V	5.5 V	-55°C to +125°C
T74LS279XX	4.75 V	5.0 V	5.25 V	0°C to +70°C

XX = package type.



DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE

Symbol	Parameter		Values			Test Conditions (Note 1)	Units
			Min.	Typ.	Max.		
V_{IH}	Input HIGH Voltage		2.0			Guaranteed input HIGH Voltage for all Inputs	V
V_{IL}	Input LOW Voltage	54		0.7		Guaranteed input LOW Voltage for all Inputs	V
		74		0.8			
V_{CD}	Input Clamp Diode Voltage			-0.65	-1.5	$V_{CC} = \text{MIN}, I_{IN} = -18\text{mA}$	V
V_{OH}	Output HIGH Voltage	54	2.5	3.4		$V_{CC} = \text{MIN}, I_{OH} = -400\mu\text{A}, V_{IN} = V_{IH}$ or V_{IL} per Truth Table	V
		74	2.7	3.4			
V_{OL}	Output LOW Voltage	54,74		0.25	0.4	$I_{OL} = 4.0\text{mA}$	V
		74		0.35	0.5	$I_{OL} = 8.0\text{mA}$	
I_{IH}	Input HIGH Current				20 0.1	$V_{CC} = \text{MAX}, V_{IN} = 2.7\text{V}$ $V_{CC} = \text{MAX}, V_{IN} = 7.0\text{V}$	μA mA
I_{IL}	Input LOW Current				-0.4	$V_{CC} = \text{MAX}, V_{IN} = 0.4\text{V}$	mA
I_{OS}	Output Short Circuit Current (Note 2)		-20		-100	$V_{CC} = \text{MAX}, V_{OUT} = 0\text{V}$	mA
I_{CC}	Supply Current			3.8	7.0	$V_{CC} = \text{MAX}$	mA

AC CHARACTERISTICS: $T_A = 25^\circ\text{C}$ (See page 576 for AC test circuit and waveforms)

Symbol	Parameter		Limits			Test Conditions	Units
			Min.	Typ.	Max.		
t_{PLH} t_{PHL}	Propagation Delay, \bar{S} to Output			12 13	22 21	$V_{CC} = 5.0\text{V}$	ns
t_{PHL}	Propagation Delay, R to Output			15	27		

Notes:

- 1) For conditions shown as MIN or MAX, use the appropriate value specified under guaranteed operating conditions for the device type.
- 2) Not more than one output should be shorted at a time.
- 3) Typical values are at $V_{CC} = 5.0\text{V}$, $T_A = 25^\circ\text{C}$.