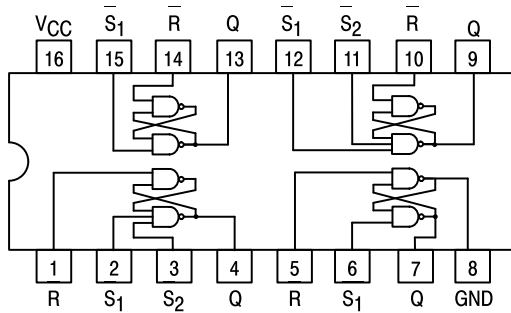




# QUAD SET-RESET LATCH

**SN54/74LS279**

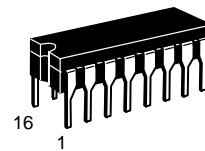
**QUAD SET-RESET LATCH  
LOW POWER SCHOTTKY**



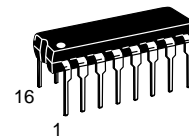
**TRUTH TABLE**

| INPUT          |                |   | OUTPUT (Q) |
|----------------|----------------|---|------------|
| S <sub>1</sub> | S <sub>2</sub> | R |            |
| L              | L              | L | h          |
| L              | X              | H | H          |
| X              | L              | H | H          |
| H              | H              | L | L          |
| H              | H              | H | No Change  |

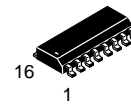
L = LOW Voltage Level  
H = HIGH Voltage Level  
X = Don't Care  
h = The output is HIGH as long as S<sub>1</sub> or S<sub>2</sub> is LOW. If all inputs go HIGH simultaneously, the output state is indeterminate; otherwise, it follows the Truth Table



**J SUFFIX  
CERAMIC  
CASE 620-09**



**N SUFFIX  
PLASTIC  
CASE 648-08**



**D SUFFIX  
SOIC  
CASE 751B-03**

**ORDERING INFORMATION**

SN54LSXXXJ Ceramic  
SN74LSXXXN Plastic  
SN74LSXXXD SOIC

**GUARANTEED OPERATING RANGES**

| Symbol          | Parameter                           |          | Min         | Typ        | Max         | Unit |
|-----------------|-------------------------------------|----------|-------------|------------|-------------|------|
| V <sub>CC</sub> | Supply Voltage                      | 54<br>74 | 4.5<br>4.75 | 5.0<br>5.0 | 5.5<br>5.25 | V    |
| T <sub>A</sub>  | Operating Ambient Temperature Range | 54<br>74 | -55<br>0    | 25<br>25   | 125<br>70   | °C   |
| I <sub>OH</sub> | Output Current — High               | 54, 74   |             |            | -0.4        | mA   |
| I <sub>OL</sub> | Output Current — Low                | 54<br>74 |             |            | 4.0<br>8.0  | mA   |

# SN54/74LS279

## DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

| Symbol          | Parameter                      |        | Limits |       |      | Unit | Test Conditions   |
|-----------------|--------------------------------|--------|--------|-------|------|------|---|
|                 |                                |        | Min    | Typ   | Max  |      |   |
| V <sub>IH</sub> | Input HIGH Voltage             |        | 2.0    |       |      | V    | Guaranteed Input HIGH Voltage for All Inputs  |
| V <sub>IL</sub> | Input LOW Voltage              | 54     |        |       | 0.7  | V    | Guaranteed Input LOW Voltage for All Inputs   |
|                 |                                | 74     |        |       | 0.8  |      |   |
| V <sub>IK</sub> | Input Clamp Diode Voltage      |        |        | -0.65 | -1.5 | V    | V <sub>CC</sub> = MIN, I <sub>IN</sub> = -18 mA   |
| V <sub>OH</sub> | Output HIGH Voltage            | 54     | 2.5    | 3.5   |      | V    | V <sub>CC</sub> = MIN, I <sub>OH</sub> = MAX, V <sub>IN</sub> = V <sub>IH</sub> or V <sub>IL</sub> per Truth Table                            |
|                 |                                | 74     | 2.7    | 3.5   |      | V    |   |
| V <sub>OL</sub> | Output LOW Voltage             | 54, 74 |        | 0.25  | 0.4  | V    | I <sub>OL</sub> = 4.0 mA<br>V <sub>CC</sub> = V <sub>CC</sub> MIN,<br>V <sub>IN</sub> = V <sub>IL</sub> or V <sub>IH</sub><br>per Truth Table |
|                 |                                | 74     |        | 0.35  | 0.5  | V    |   |
| I <sub>IH</sub> | Input HIGH Current             |        |        |       | 20   | μA   | V <sub>CC</sub> = MAX, V <sub>IN</sub> = 2.7 V  |
|                 |                                |        |        |       | 0.1  | mA   | V <sub>CC</sub> = MAX, V <sub>IN</sub> = 7.0 V  |
| I <sub>IL</sub> | Input LOW Current              |        |        |       | -0.4 | mA   | V <sub>CC</sub> = MAX, V <sub>IN</sub> = 0.4 V  |
| I <sub>OS</sub> | Short Circuit Current (Note 1) |        | -20    |       | -100 | mA   | V <sub>CC</sub> = MAX   |
| I <sub>CC</sub> | Power Supply Current           |        |        |       | 7.0  | mA   | V <sub>CC</sub> = MAX   |

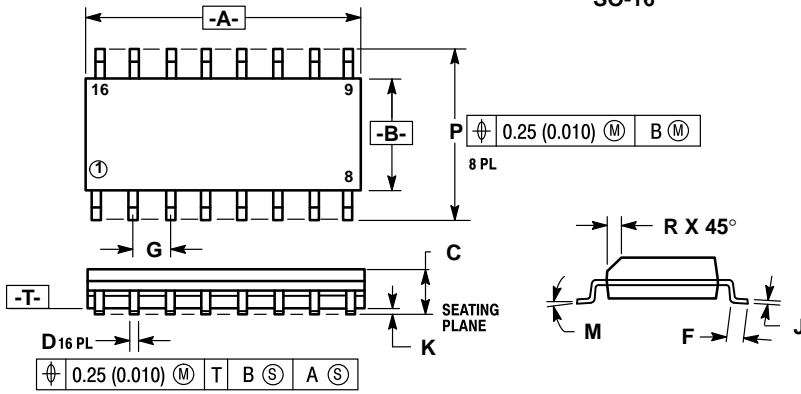
Note 1: Not more than one output should be shorted at a time, nor for more than 1 second.

## AC CHARACTERISTICS (T<sub>A</sub> = 25°C)

| Symbol                               | Parameter                      |  | Limits |     |           | Unit | Test Conditions                                   |
|--------------------------------------|--------------------------------|--|--------|-----|-----------|------|---|
|                                      |                                |  | Min    | Typ | Max       |      |   |
| t <sub>PLH</sub><br>t <sub>PHL</sub> | Propagation Delay, S to Output |  |        |     | 22<br>21* | ns   | V <sub>CC</sub> = 5.0 V<br>C <sub>L</sub> = 15 pF |
| t <sub>PHL</sub>                     | Propagation Delay, R to Output |  |        |     | 27        | ns   |   |

\* Add 0.6 ns to spec limit for each 1.0 ns input rise time less than 15 ns.

**Case 751B-03 D Suffix  
16-Pin Plastic  
SO-16**

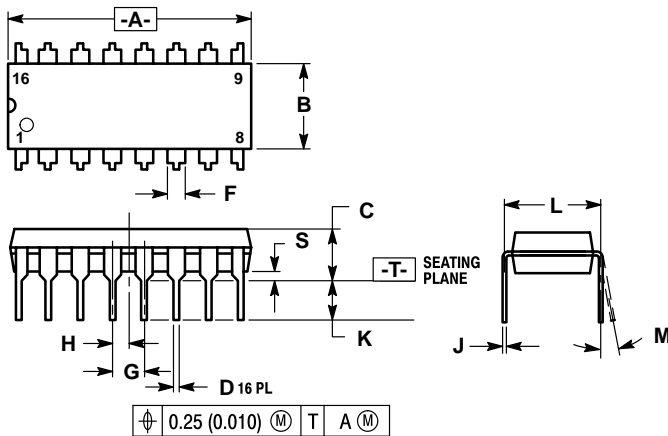


**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. 751B-01 IS OBSOLETE, NEW STANDARD 751B-03.

| DIM | MILLIMETERS |       | INCHES    |       |
|-----|-------------|-------|-----------|-------|
|     | MIN         | MAX   | MIN       | MAX   |
| A   | 9.80        | 10.00 | 0.386     | 0.393 |
| B   | 3.80        | 4.00  | 0.150     | 0.157 |
| C   | 1.35        | 1.75  | 0.054     | 0.068 |
| D   | 0.35        | 0.49  | 0.014     | 0.019 |
| F   | 0.40        | 1.25  | 0.016     | 0.049 |
| G   | 1.27 BSC    |       | 0.050 BSC |       |
| J   | 0.19        | 0.25  | 0.008     | 0.009 |
| K   | 0.10        | 0.25  | 0.004     | 0.009 |
| M   | 0°          | 7°    | 0°        | 7°    |
| P   | 5.80        | 6.20  | 0.229     | 0.244 |
| R   | 0.25        | 0.50  | 0.010     | 0.019 |

**Case 648-08 N Suffix  
16-Pin Plastic**

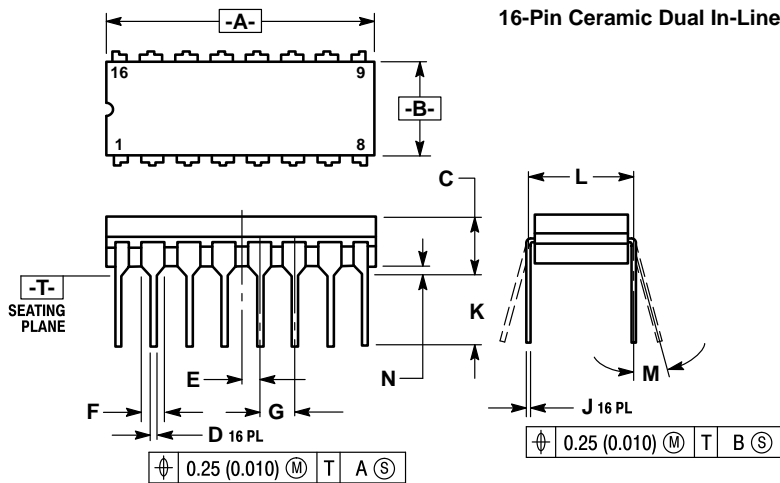


**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION "L" TO CENTER OF LEADS WHEN FORMED PARALLEL.
4. DIMENSION "B" DOES NOT INCLUDE MOLD FLASH.
5. ROUNDED CORNERS OPTIONAL.
6. 648-01 THRU -07 OBSOLETE, NEW STANDARD 648-08.

| DIM | MILLIMETERS |       | INCHES    |       |
|-----|-------------|-------|-----------|-------|
|     | MIN         | MAX   | MIN       | MAX   |
| A   | 18.80       | 19.55 | 0.740     | 0.770 |
| B   | 6.35        | 6.85  | 0.250     | 0.270 |
| C   | 3.69        | 4.44  | 0.145     | 0.175 |
| D   | 0.39        | 0.53  | 0.015     | 0.021 |
| F   | 1.02        | 1.77  | 0.040     | 0.070 |
| G   | 2.54 BSC    |       | 0.100 BSC |       |
| H   | 1.27 BSC    |       | 0.050 BSC |       |
| J   | 0.21        | 0.38  | 0.008     | 0.015 |
| K   | 2.80        | 3.30  | 0.110     | 0.130 |
| L   | 7.50        | 7.74  | 0.295     | 0.305 |
| M   | 0°          | 10°   | 0°        | 10°   |
| S   | 0.51        | 1.01  | 0.020     | 0.040 |

**Case 620-09 J Suffix  
16-Pin Ceramic Dual In-Line**



**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION L TO CENTER OF LEAD WHEN FORMED PARALLEL.
4. DIM F MAY NARROW TO 0.76 (0.030) WHERE THE LEAD ENTERS THE CERAMIC BODY.
5. 620-01 THRU -08 OBSOLETE, NEW STANDARD 620-09.

| DIM | MILLIMETERS |       | INCHES    |       |
|-----|-------------|-------|-----------|-------|
|     | MIN         | MAX   | MIN       | MAX   |
| A   | 19.05       | 19.55 | 0.750     | 0.770 |
| B   | 6.10        | 7.36  | 0.240     | 0.290 |
| C   | —           | 4.19  | —         | 0.165 |
| D   | 0.39        | 0.53  | 0.015     | 0.021 |
| E   | 1.27 BSC    |       | 0.050 BSC |       |
| F   | 1.40        | 1.77  | 0.055     | 0.070 |
| G   | 2.54 BSC    |       | 0.100 BSC |       |
| J   | 0.23        | 0.27  | 0.009     | 0.011 |
| K   | —           | 5.08  | —         | 0.200 |
| L   | 7.62 BSC    |       | 0.300 BSC |       |
| M   | 0°          | 15°   | 0°        | 15°   |
| N   | 0.39        | 0.88  | 0.015     | 0.035 |

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