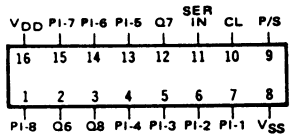
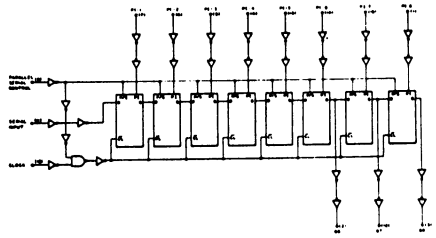
# SCL4021B

**EIGHT STAGE STATIC SHIFT REGISTER**




**LOGIC DIAGRAM**



## STATIC CHARACTERISTICS: ( $V_{SS}$ = 0 V )

| PARAMETER | CONDITIONS | $V_{DD}$ (Vdc) | $T_{LOW}$* MIN | $T_{LOW}$* MAX | +25°C MIN | +25°C TYP | +25°C MAX | $T_{HIGH}$** MIN | $T_{HIGH}$** MAX | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| QUIESCENT DEVICE CURRENT $I_{DD}$ | $V_{IN}$ = $V_{SS}$ OR $V_{DD}$ | 5 | | 5 | | 0.05 | 5 | | 150 | μAdc |
| | | 10 | | 10 | | 0.1 | 10 | | 300 | |
| | | 15 | | 20 | | 0.2 | 20 | | 600 | |

Note: * TLOW = -55°C for C / H devices, -40°C for E / S devices, **THIGH = +125°C for C / H devices, +85°C for E / S devices.

## DYNAMIC CHARACTERISTICS: ( $C_L$ = 50pF, $T_A$ = 25°C )

| PARAMETER | $V_{DD}$ (Vdc) | MINIMUM | TYPICAL | MAXIMUM | UNIT |
|---|---|---|---|---|---|
| PROPAGATION DELAY TIME $t_{PLH}$, $t_{PHL}$ (FROM CLOCK OR P/S OUTPUT) | 5 | | 180 | | ns |
| | 10 | | 90 | | |
| | 15 | | 75 | | |
| OUTPUT TRANSITION TIME $t_{TLH}$, $t_{THL}$ | 5 | | 100 | | ns |
| | 10 | | 50 | | |
| | 15 | | 40 | | |
| CLOCK PULSE WIDTH MINIMUM $PW_{CL}$ | 5 | | 90 | | ns |
| | 10 | | 40 | | |
| | 15 | | 25 | | |
| CLOCK FREQUENCY MAXIMUM $f_{CL}$ | 5 | 3 | 5 | | MHz |
| | 10 | 6 | 12 | | |
| | 15 | 8 | 16 | | |
| CLOCK RISE & FALL TIME MAXIMUM $t_{rCL}$ $t_{fCL}$ | 5 | 15 | | | μs |
| | 10 | 15 | | | |
| | 15 | 15 | | | |
| P/S PULSE WIDTH MINIMUM PW | 5 | | 80 | 160 | ns |
| | 10 | | 40 | 80 | |
| | 15 | | 25 | 50 | |
| SETUP TIME MINIMUM $t_{set}$ (PARALLEL OR SERIAL INPUTS) | 5 | | 60 | 120 | ns |
| | 10 | | 40 | 80 | |
| | 15 | | 30 | 60 | |
| HOLD TIME MINIMUM $t_{hold}$ (PARALLEL OR SERIAL INPUTS) | 5 | | 100 | 200 | ns |
| | 10 | | 30 | 60 | |
| | 15 | | 20 | 40 | |
| P/S REMOVAL TIME $t_{rem}$ | 5 | | 140 | 280 | ns |
| | 10 | | 70 | 140 | |
| | 15 | | 50 | 100 | |

**DIE DRAWING**

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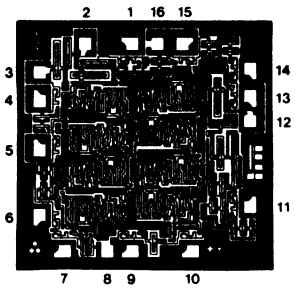
80 x 77 mils




Note: Refer to "SCL4000B SERIES FAMILY SPECIFICATIONS" for remaining Dynamic and Static Characteristics, and, for recommended and maximum operating conditions.