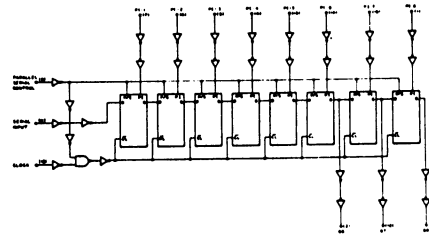
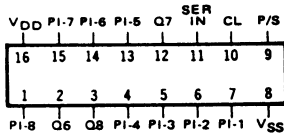


**SCL4021B**

EIGHT STAGE STATIC SHIFT REGISTER

LOGIC DIAGRAM



**STATIC CHARACTERISTICS: ( V<sub>SS</sub> = 0 V )**

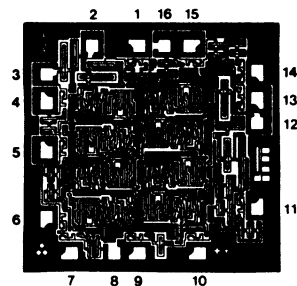
| PARAMETER                                | CONDITIONS   | V <sub>DD</sub><br>(Vdc) | T <sub>LOW</sub> * |     | +25°C |      |     | T <sub>HIGH</sub> ** |     | UNIT             |
|--|--|--------------------------|--------------------|-----|-------|------|-----|----------------------|-----|------------------|
|  |  |                          | MIN                | MAX | MIN   | TYP  | MAX | MIN                  | MAX |                  |
| QUIESCENT DEVICE CURRENT I <sub>DD</sub> | V <sub>IN</sub> = V <sub>SS</sub> OR V <sub>DD</sub> | 5                        |                    | 5   |       | 0.05 | 5   |                      | 150 | μA <sub>dc</sub> |
|  |  | 10                       |                    | 10  |       | 0.1  | 10  |                      | 300 |                  |
|  |  | 15                       |                    | 20  |       | 0.2  | 20  |                      | 600 |                  |

Note: \* T<sub>LOW</sub> = -55°C for C / H devices, -40°C for E / S devices, \*\*T<sub>HIGH</sub> = +125°C for C / H devices, +85°C for E / S devices.

**DYNAMIC CHARACTERISTICS: ( C<sub>L</sub> = 50pF, T<sub>A</sub> = 25°C )**

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

**DIE DRAWING**  
SCL4021B  
80 x 77 mils



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