

SCL4022B

OCTAL COUNTER/DIVIDER

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

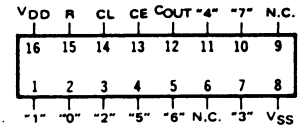
| PARAMETER | CONDITIONS | V_{DD} (Vdc) | T_{LOW}^* | | +25°C | | | T_{HIGH}^{**} | | UNIT |
|-----------------------------------|-------------------------------|-------------------|-------------|-----|-------|-----|-----|-----------------|--------------|------|
| | | | MIN | MAX | TYP | MAX | MIN |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

Note: * T_{LOW} = -55°C for C / H devices, -40°C for E / S devices, ** T_{HIGH} = +125°C for C / H devices, +85°C for E / S devices.

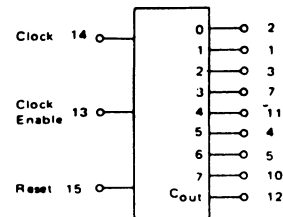
DYNAMIC CHARACTERISTICS: ($C_L = 50pF, T_A = 25°C$)

| PARAMETER | V_{DD} Vdc | MINIMUM | TYPICAL | MAXIMUM | UNIT |
|---|-----------------|---------|---------|---------|---------|
| PROPAGATION DELAY TIME t_{PLH}, t_{PHL} (TO DECODED OUTPUTS) | 5 | | 600 | 1200 | ns |
| | 10 | | 240 | 480 | |
| | 15 | | 180 | 360 | |
| PROPAGATION DELAY TIME t_{PLH}, t_{PHL} (TO CARRY OUTPUT) | 5 | | 500 | 1000 | ns |
| | 10 | | 200 | 400 | |
| | 15 | | 150 | 300 | |
| OUTPUT TRANSITION TIME t_{TLH}, t_{THL} (DECODED OUTPUTS) | 5 | | 250 | 500 | ns |
| | 10 | | 125 | 250 | |
| | 15 | | 90 | 180 | |
| OUTPUT TRANSITION TIME t_{TLH}, t_{THL} (CARRY OUTPUT) | 5 | | 180 | 360 | ns |
| | 10 | | 90 | 180 | |
| | 15 | | 65 | 130 | |
| CLOCK PULSE WIDTH MINIMUM PW_{CL} | 5 | | 200 | 400 | ns |
| | 10 | | 100 | 200 | |
| | 15 | | 80 | 160 | |
| CLOCK FREQUENCY MAXIMUM f_{CL} | 5 | 1.25 | 2.5 | | MHz |
| | 10 | 2.5 | 5 | | |
| | 15 | 3 | 6 | | |
| CLOCK OR ENABLE RISE & FALL TIME MAXIMUM t_{rCL}, t_{fCL} | 5 | 15 | | | μs |
| | 10 | 15 | | | |
| | 15 | 5 | | | |
| ENABLE SETUP TIME MINIMUM t_{set} | 5 | | 175 | 350 | ns |
| | 10 | | 75 | 150 | |
| | 15 | | 55 | 110 | |
| ENABLE REMOVAL TIME MINIMUM t_{rem} | 5 | | 250 | 500 | ns |
| | 10 | | 100 | 200 | |
| | 15 | | 75 | 150 | |

CONNECT DIAGRAM



BLOCK DIAGRAM



SCL4022B

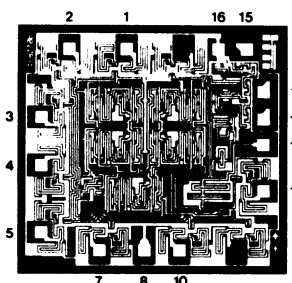
OCTAL COUNTER/DIVIDER

DYNAMIC CHARACTERISTICS: ($C_L = 50pF, T_A = 25^\circ C$)

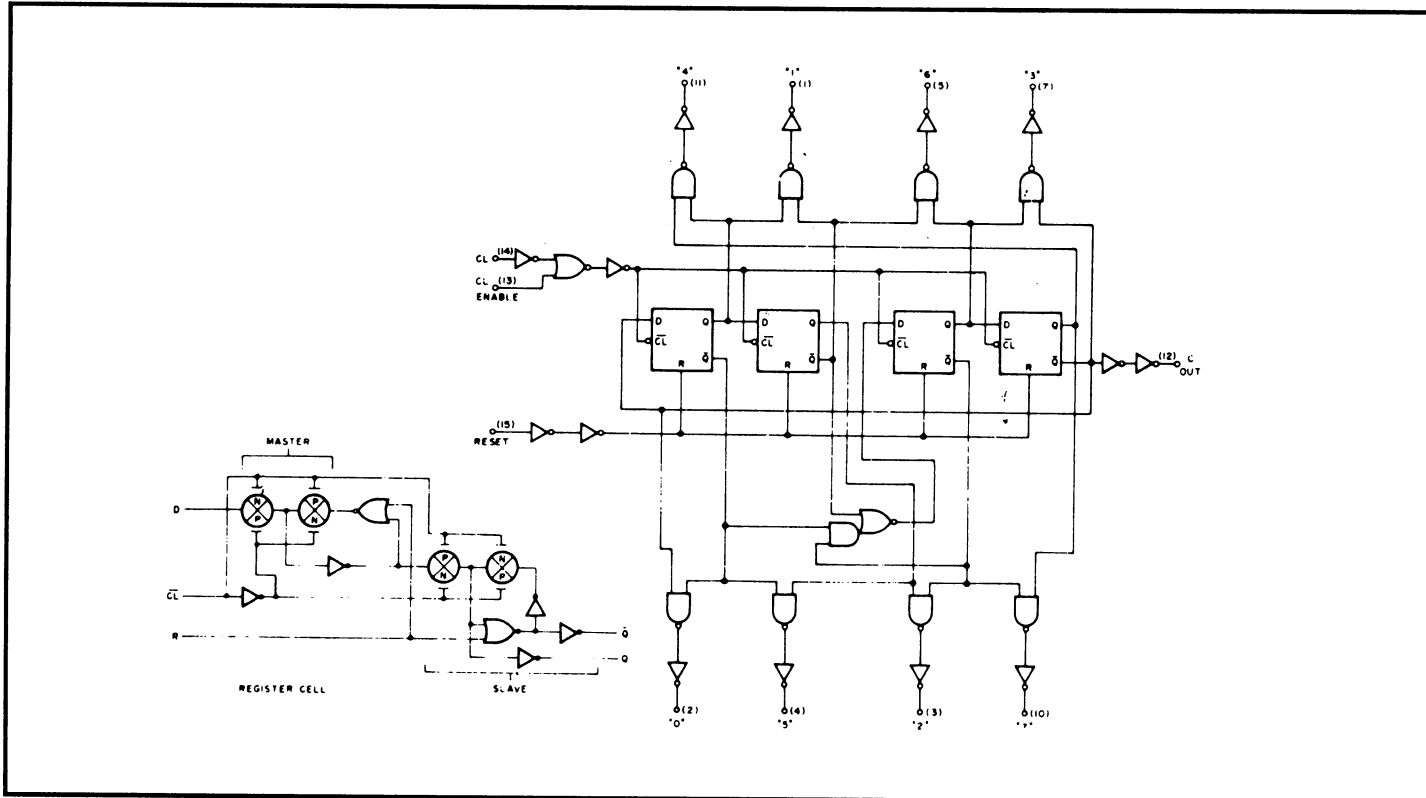
| PARAMETER | V_{DD} V_{dc} | MINIMUM | TYPICAL | MAXIMUM | UNIT |
|--------------------------------|----------------------|---------|---------|---------|------|
| RESET PROPAGATION | 5 | | 500 | 1000 | ns |
| DELAY TIME t_{PLH} t_{PHL} | 10 | | 200 | 400 | |
| (TO DECODED OUTPUTS) | 15 | | 140 | 280 | |
| PROPAGATION | 5 | | 400 | 800 | ns |
| DELAY TIME t_{PLH} | 10 | | 150 | 300 | |
| (TO CARRY OUTPUT) | 15 | | 110 | 220 | |
| RESET PULSE WIDTH | 5 | | 150 | 300 | ns |
| MINIMUM PW_R | 10 | | 75 | 150 | |
| | 15 | | 60 | 120 | |
| RESET REMOVAL TIME | 5 | | 250 | 500 | ns |
| t_{rem} | 10 | | 100 | 200 | |
| | 15 | | 80 | 160 | |

DIE DRAWING

SCL4022B
83 x 76 mils



LOGIC DIAGRAM



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