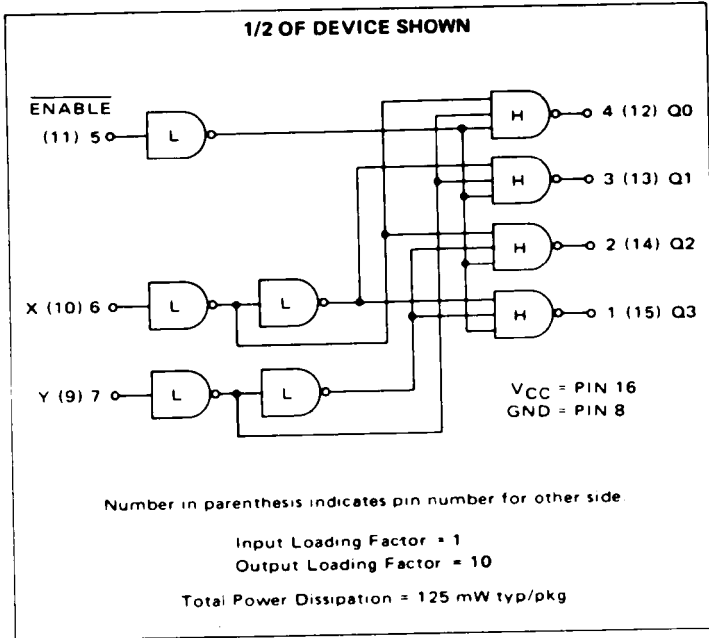


DUAL BINARY TO ONE-OF-FOUR LINE DECODER

MC4307  
MC4007



This device converts two lines of input data to a one-of-four output. The enable line provides an inhibit capability and also allows the decoder to be expanded for larger decoder systems.

The dual 2-input/4-output decoder consists of high-level and low-level gates internally connected for minimum power consumption and maximum driving capabilities. The enable gate must be in the low state to perform the decode operation shown in the truth table.

The propagation delays shown in the charts are typical and vary according to loading, interconnection wiring length, and the number of logic levels involved.

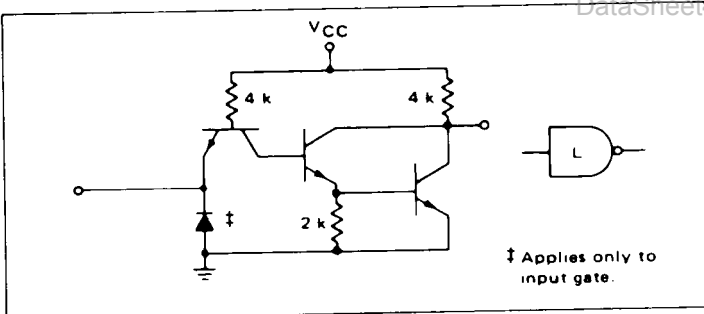
TRUTH TABLE

E = 0

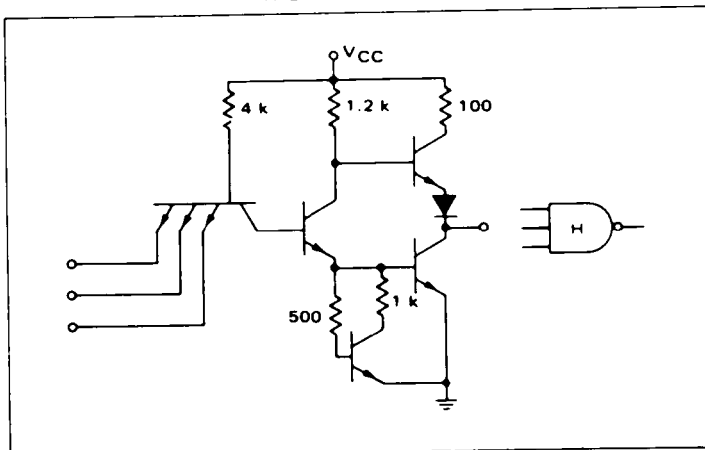
| X | Y | Q0 | Q1 | Q2 | Q3 |
|---|---|----|----|----|----|
| 0 | 0 | 0  | 1  | 1  | 1  |
| 1 | 0 | 1  | 0  | 1  | 1  |
| 0 | 1 | 1  | 1  | 0  | 1  |
| 1 | 1 | 1  | 1  | 1  | 0  |

1 = High State  
0 = Low State

LOW-LEVEL GATE



HIGH-LEVEL GATE



TYPICAL TURN-ON DELAY TIMES (ns)  
TA = 25°C

| Input | Q0   | Q1   | Q2   | Q3   |
|-------|------|------|------|------|
| X     | 11.5 | 15.5 | 11.5 | 15.5 |
| Y     | 11.5 | 11.5 | 15.5 | 15.5 |
| E     | 13.5 | 13.5 | 13.5 | 13.5 |

TYPICAL TURN-OFF DELAY TIMES (ns)  
TA = 25°C

| Input | Q0   | Q1   | Q2   | Q3   |
|-------|------|------|------|------|
| X     | 14.0 | 19.0 | 14.0 | 19.0 |
| Y     | 14.0 | 14.0 | 19.0 | 19.0 |
| E     | 14.5 | 14.5 | 14.5 | 14.5 |