

CMOS AND GATES

4081B - Quad 2-Input AND
4082B - Dual 4-Input AND
4073B - Triple 3-Input AND

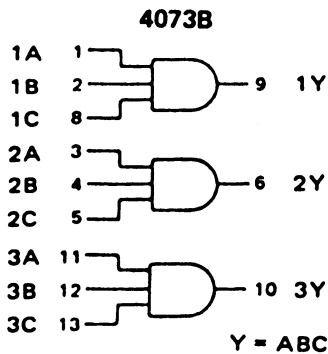
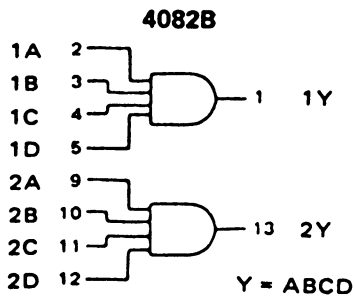
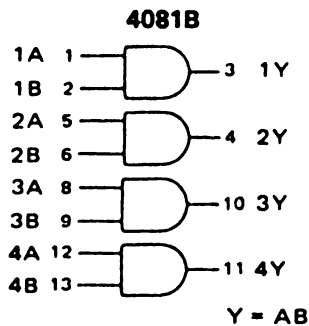
FEATURES

- ◆ Buffered Outputs
- ◆ Diode Protection on all Inputs
- ◆ Fully "B"-Series Compatible

TRUTH TABLE

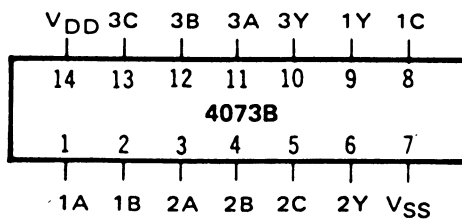
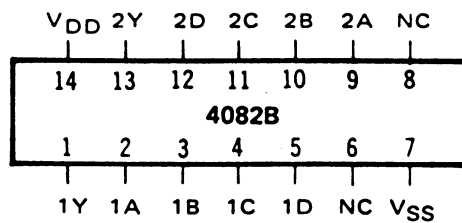
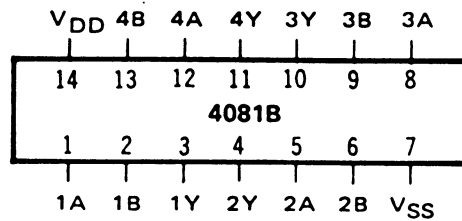
| Inputs | Output |
|------------------------|--------|
| 1 1 ... 1 | 1 |
| All other combinations | 0 |

FUNCTION DIAGRAMS



V_{DD} = Pin 14
V_{SS} = Pin 7
for all Devices

CONNECTION DIAGRAMS (all packages)



RECOMMENDED OPERATING CONDITIONS

For maximum reliability:

DC Supply Voltage V_{DD} - V_{SS} 3 to 15 V_{dc}

Operating Temperature T_A

C -55 to +125 °C
E -40 to +85 °C

ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS

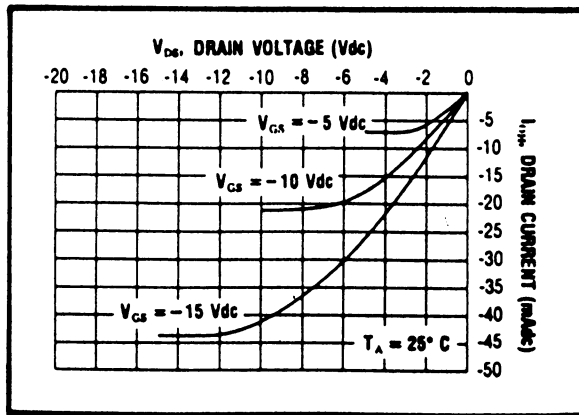
| PARAMETER | V _{DD} (Vdc) | CONDITIONS | T _{LOW} ² | | +25°C | | | T _{HIGH} ² | | Units |
|---|-----------------------|--|-------------------------------|------|-------|--------|------|--------------------------------|------|------------------|
| | | | Min. | Max. | Min. | Typ. | Max. | Min. | Max. | |
| QUIESCENT DEVICE CURRENT I _{DD} | 5 | V _{IN} = V _{ES} or V _{DD} All valid input combinations | - | 0.05 | - | 0.0005 | 0.05 | - | 1.5 | μA _{dc} |
| | 10 | | - | 0.10 | - | 0.001 | 0.10 | - | 3.0 | |
| | 15 | | - | 0.20 | - | 0.002 | 0.20 | - | 6.0 | |

NOTES: ¹ Remaining Static Electrical Characteristics are listed under "4000B Series Family Specifications".

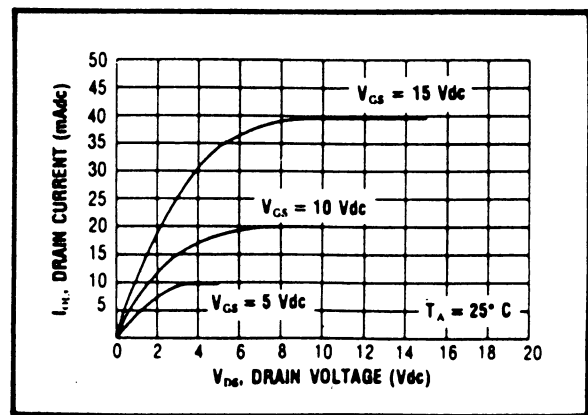
² T_{LOW} = -55°C for C
 = -40°C for E
 T_{HIGH} = +125°C for C
 = + 85°C for E

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

| PARAMETER | | V _{DD} (Vdc) | Min. | Typ. | Max. | Units |
|------------------------|-------------------------------------|-----------------------|------|------|------|-------|
| PROPAGATION DELAY TIME | t _{PLH} , t _{PHL} | 5 | - | 120 | 240 | ns |
| | | 10 | - | 60 | 120 | |
| | | 15 | - | 45 | 90 | |
| OUTPUT TRANSITION TIME | t _{TLH} , t _{THL} | 5 | - | 100 | 200 | ns |
| | | 10 | - | 50 | 100 | |
| | | 15 | - | 40 | 80 | |



Typical P-Channel
Source Current Characteristics
LOGIC DIAGRAMS



Typical N-Channel
Sink Current Characteristics
SCHEMATIC DIAGRAM - 4082B (1 of 2 gates)

