

ABSOLUTE MAXIMUM RATINGS*

Temperature Under Bias Plastic -40°C to 85°C
 Storage Temperature -65°C to +160°C
 All Output or Supply Voltages -0.5 to +7 Volts
 All Input Voltages -1.0 to 5.5 Volts
 Output Currents 100mA

**NOTICE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.*

D.C. CHARACTERISTICS ($T_A = -40^\circ\text{C}$ to 85°C , $V_{CC} = +5\text{V} \pm 5\%$)

| Symbol | Parameter | Limits | | | Unit | Test Conditions |
|-----------------|--|--------|------|-----------|----------|---|
| | | Min. | Typ. | Max. | | |
| I _F | Input Load Current, ACK, DS ₂ , CR, DI ₁ -DI ₈ Inputs | | | -0.25 | mA | V _F = .45V |
| I _F | Input Load Current MD Input | | | -0.75 | mA | V _F = .45V |
| I _F | Input Load Current DS ₁ Input | | | -1.0 | mA | V _F = .45V |
| I _R | Input Leakage Current, ACK, DS, CR, DI ₁ -DI ₈ Inputs | | | 10 | μA | V _R ≤ V _{CC} |
| I _R | Input Leakage Current MO Input | | | 30 | μA | V _R ≤ V _{CC} |
| I _R | Input Leakage Current DS ₁ Input | | | 40 | μA | V _R ≤ V _{CC} |
| V _C | Input Forward Voltage Clamp | | | -1 | V | I _C = -5mA |
| V _{IL} | Input "Low" Voltage | | | 0.85 | V | |
| V _{IH} | Input "High" Voltage | 2.0 | | | V | |
| V _{OL} | Output "Low" Voltage | | | 0.45 | V | I _{OL} = 15mA |
| V _{OH} | Output "High" Voltage | 3.65 | 4.0 | | V | I _{OH} = -1mA |
| I _{SC} | Short Circuit Output Current | -15 | | -75 | mA | V _O = 0V, V _{CC} = 5V |
| I _O | Output Leakage Current High Impedance State | | | -20 20 | μA μA | V _O = .45V V _O = 5.25V |
| I _{CC} | Power Supply Current | | 90 | 130 | mA | |

CAPACITANCE* (F = 1 MHz, V_{BIAS} = 2.5V, V_{CC} = +5V, T_A = 25°C)

| Symbol | Test | Limits | |
|------------------|---|--------|-------|
| | | Typ. | Max. |
| C _{IN} | DS ₁ MD Input Capacitance | 9pF | 15 pF |
| C _{IN} | DS ₂ , CK, ACK, DI ₁ -DI ₈ Input Capacitance | 5pF | 10 pF |
| C _{OUT} | DO ₁ -DO ₈ Output Capacitance | 8pF | 15 pF |

*This parameter is sampled and not 100% tested.

A.C. CHARACTERISTICS ($T_A = -40^{\circ}\text{C}$ to 85°C , $V_{CC} = +5\text{V} \pm 5\%$)

| Symbol | Parameter | Limits | | | Unit | Test Conditions |
|--------|------------------------------|--------|------|------|------|-----------------|
| | | Min. | Typ. | Max. | | |
| tpw | Pulse Width | 30 | | | ns | |
| tpD | Data to Output Delay | | | 30 | ns | Note 1 |
| tWE | Write Enable to Output Delay | | | 40 | ns | Note 1 |
| tSET | Data Set Up Time | 15 | | | ns | |
| tH | Data Hold Time | 20 | | | ns | |
| tR | Reset to Output Delay | | | 40 | ns | Note 1 |
| ts | Set to Output Delay | | | 30 | ns | Note 1 |
| tE | Output Enable/Disable Time | | | 45 | ns | Note 1 |
| tc | Clear to Output Delay | | | 55 | ns | Note 1 |

SWITCHING CHARACTERISTICS
Conditions of Test

Input Pulse Amplitude = 2.5V

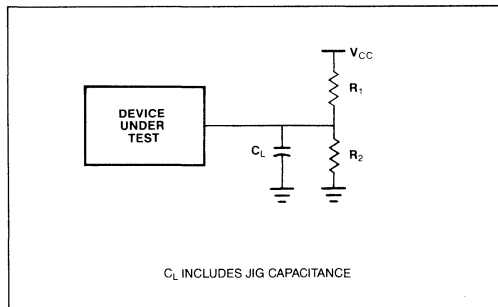
Input Rise and Fall Times 5ns

Between 1V and 2V Measurements made at 1.5V with 15mA and 30pF Test Load

Note 1:

| Test | C_L^* | R_1 | R_2 |
|--------------------------|---------|--------------|--------------|
| tpD, tWE, tR, ts, tc | 30pF | 300 Ω | 600 Ω |
| tE, ENABLE \uparrow | 30pF | 10K Ω | 1K Ω |
| tE, ENABLE \downarrow | 30pF | 300 Ω | 600 Ω |
| tE, DISABLE \uparrow | 5pF | 300 Ω | 600 Ω |
| tE, DISABLE \downarrow | 5pF | 10K Ω | 1K Ω |

*Includes probe and jig capacitance.

A.C. TESTING LOAD CIRCUIT




I8216/I8226

4-BIT PARALLEL BIDIRECTIONAL BUS DRIVER

INDUSTRIAL

- Data Bus Buffer Driver
 - Low Input Load Current — .25 mA Maximum
 - High Output Drive Capability for Driving System Data Bus
- 3.65V Output High Voltage
 - Three State Outputs
 - Reduces System Package Count
 - Industrial Temperature Range: -40° to +85°C

The I8216/I8226 is a 4-bit bidirectional bus driver/receiver.

All inputs are low power TTL compatible. For driving MOS, the DO outputs provide a high 3.65V V_{OH} , and for high capacitance terminated bus structures, the DB outputs provide a high 50mA I_{OL} capability.

A non-inverting (I8216) and an inverting (I8226) are available to meet a wide variety of applications for buffering in microcomputer systems.

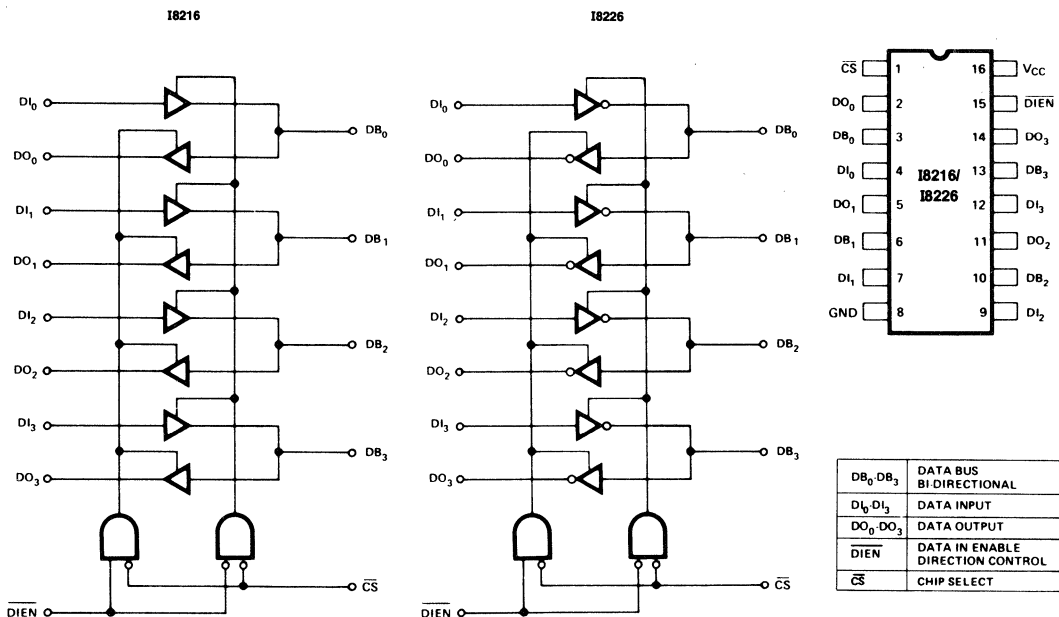


Figure 1. Logic Diagrams

Figure 2. Pin Configuration