HARRIS SEMICONDUCTOR

CD54AC257/3A
CD54ACT257/3A

Quad 2-Input Multiplexer Three-State, Non-Inverting

June 1997

COMPLETE DATA SHEET COMING SOON!

Description

The CD54AC257/3A and CD54ACT257/3A are quad 2-input multiplexers with three-state outputs. These devices utilize the Harris Advanced CMOS Logic technology. Each of these devices selects four bits of data from two sources under the control of a common Select input (S). The Output Enable ($\overline{OE}$) is active LOW. When $\overline{OE}$ is HIGH, all of the outputs (Y) are in the high-impedance state regardless of all other input conditions.

Moving data from two groups of registers to four common output buses is a common use of the CD54AC/ACT257/3A. The state of the Select input determines the particular register from which the data comes. The CD54AC/ACT257/3A can also be used as function generators.

The CD54AC257/3A and CD54ACT257/3A are supplied in 16 lead dual-in-line ceramic packages (F suffix).

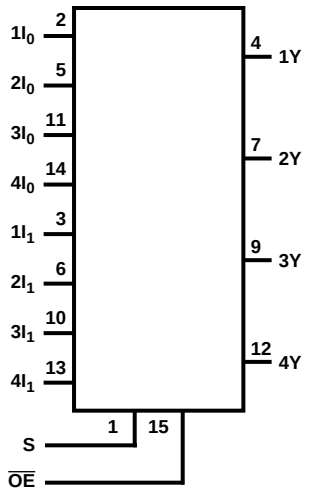
ACT INPUT LOAD TABLE

INPUT	UNIT LOAD (NOTE 1)
Data	0.83
S	1.27
$\overline{OE}$	1.27

NOTE:

1. Unit load is ΔI_{CC} limit specified in DC Electrical Specifications Table, e.g., 2.4mA Max at +25°C.

Functional Diagram



Absolute Maximum Ratings

DC Supply Voltage, V_{CC} . . . . . -0.5V to +6V
DC Input Diode Current, I_{IK}
For V_I < -0.5V or V_I > V_{CC} + 0.5V . . . . . ±20mA
DC Output Diode Current, I_{OK}
For V_O < -0.5V or V_O > V_{CC} + 0.5V . . . . . ±50mA
DC Output Source or Sink Current, Per Output Pin, I_O
For V_O > -0.5V or V_O < V_{CC} + 0.5V . . . . . ±50mA
DC V_{CC} or GND Current, I_{CC} or I_{GND}
For Up to 4 Outputs Per Device, Add ±25mA For Each Additional Output . . . . . ±100mA

Power Dissipation Per Package, P_D
T_A = -55°C to +100°C (Package F) 500mW
T_A = +100°C to +125°C (Package F) . . . . . Derate Linearly at 8mW/°C to 300mW
Operating Temperature Range, T_A
Package Type F . . . . . -55°C to +125°C
Storage Temperature, T_{STG} . . . . . -65°C to +150°C
Lead Temperature (During Soldering)
At Distance 1/16in. ± 1/32in. (1.59mm ± 0.79mm)
From Case For 10s Max . . . . . +265°C
Unit Inserted Into a PC Board (Min Thickness 1/16in., 1.59mm)
With Solder Contacting Lead Tips Only . . . . . +300°C

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

Recommended Operating Conditions

Supply Voltage Range, V_{CC}
Unless Otherwise Specified, All Voltages Referenced to GND
T_A = Full Package Temperature Range
CD54AC Types . . . . . 1.5V to 5.5V
CD54ACT Types . . . . . 4.5V to 5.5V
DC Input or Output Voltage, V_I, V_O . . . . . 0V to V_{CC}

Operating Temperature, T_A . . . . . -55°C to +125°C
Input Rise and Fall Slew Rate, dt/dv
at 1.5V to 3V (AC Types) . . . . . 0ns/V to 50ns/V
at 3.6V to 5.5V (AC Types) . . . . . 0ns/V to 20ns/V
at 4.5V to 5.5V (AC Types) . . . . . 0ns/V to 10ns/V

CAUTION: These devices are sensitive to electrostatic discharge. Users should follow proper I.C. Handling Procedures.

File Number **3903**