HARRIS SEMICONDUCTOR

CD54AC574/3A
CD54ACT574/3A

Octal D-Type Flip-Flop, Three-State Positive-Edge Triggered, Non-Inverting

June 1997

COMPLETE DATA SHEET COMING SOON!

Description

The CD54AC574/3A and CD54ACT574/3A are octal D-type, three-state, positive-edge triggered flip-flops that utilize the Harris Advanced CMOS Logic technology. The eight flip-flops enter data into their registers on the LOW-to-HIGH transition of the clock (CP). The Output Enable ($\overline{OE}$) controls the three-state outputs and is independent of the register operation. When the Output Enable ($\overline{OE}$) is HIGH, the outputs are in the high-impedance state. The CD54AC574/3A and CD54ACT574/3A are non-inverted.

The CD54AC574/3A and CD54ACT574/3A are supplied in 20 lead dual-in-line ceramic packages (F suffix).

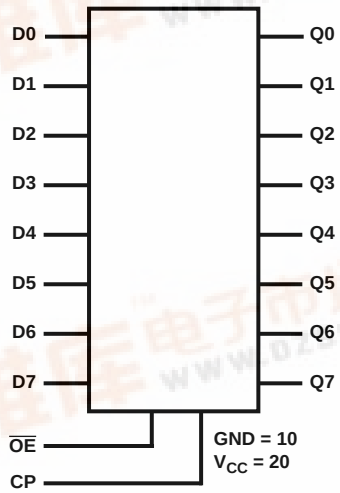
ACT INPUT LOAD TABLE

INPUT	UNIT LOAD (NOTE 1)
D, $\overline{OE}$	0.7
CP	1.17

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