



CD54HC21/3A CD54HCT21/3A

**COMPLETE DATA SHEET
COMING SOON!**

June 1997

Dual 4-Input AND Gate

Description

The CD54HC21/3A and CD54HCT21/3A logic gates utilize silicon-gate CMOS technology to achieve operating speeds similar to LSTTL gates with the low power consumption of standard CMOS integrated circuits. All devices have the ability to drive 10 LSTTL loads. The CD54HCT logic family is functionally as well as pin compatible with the standard 54LS logic family.

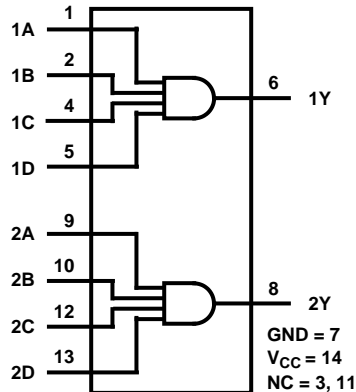
HCT INPUT LOAD TABLE

INPUT	UNIT LOAD (NOTE 1)
All	1

NOTE:

- Unit load is ΔI_{CC} limit specified in DC Electrical Specifications Table, e.g., 360 μ A Max at +25°C.

Functional Diagram



Absolute Maximum Ratings

DC Supply Voltage, V_{CC}
 Voltages Referenced to GND -0.5V to +7.0V
 DC Input Voltage Range, All Inputs, V_{IN} -0.5V to $V_{CC} + 0.5V$
 DC Output Voltage Range, All Outputs, V_{OUT} ... -0.5V to $V_{CC} + 0.5V$
 DC Input Diode Current, I_{IK}
 For $V_I < -0.5V$ or $V_I > V_{CC} + 0.5V$ $\pm 20mA$
 DC Output Diode Current, I_{OK}
 For $V_O < -0.5V$ or $V_O > V_{CC} + 0.5V$ $\pm 20mA$
 DC Drain Current, Per Output, I_O , For $-0.5V < V_O < V_{CC} + 0.5V$
 Standard Output $\pm 25mA$
 Bus Driver Output $\pm 35mA$
 DC V_{CC} or GND Current, I_{CC}
 Standard Output $\pm 50mA$
 Bus Driver Output $\pm 70mA$

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

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}
 $T_A =$ Full Package Temperature Range
 CD54HC Types2V to 6V
 CD54HCT Types4.5V to 5.5V
 DC Input or Output Voltage, V_{IN} , V_{OUT} 0V to V_{CC}

Operating Temperature Range, T_A $-55^\circ C$ to $+125^\circ C$
 Input Rise and Fall Times, t_R , t_F
 at 2V 0ns to 1000ns
 at 4.5V 0ns to 500ns
 at 6V 0ns to 400ns