

HD100179

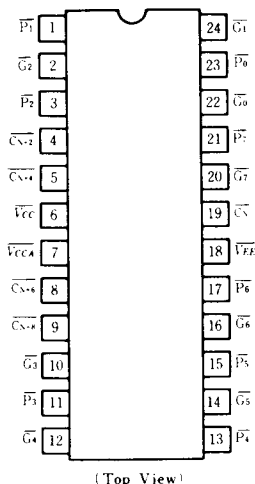
Carry Look-ahead

The HD100179 is a high speed carry look-ahead generator intended for use with the HD100180

6-bit fast Adder and the HD100181 4-bit ALU.

PIN ARRANGEMENT

● HD100179



TRUTH TABLE

● C_{N-2} Output

C _N	G ₀	P ₀	G ₁	P ₁	C _{N-2}
×	×	×	L	×	L
×	L	×	×	L	L
L	×	L	×	L	L

All other combinations H

$$C_{N-2} = G_0 + P_0 + G_1 + P_1 + P_0 + C_N$$

× = Don't care

● C_{N-4} Output

C _N	G ₀	P ₀	G ₁	P ₁	G ₂	P ₂	G ₃	P ₃	C _{N-4}
×	×	×	×	×	×	×	L	×	L
×	×	×	×	×	L	×	×	L	L
×	×	×	L	×	×	L	×	L	L
×	L	×	×	L	×	L	×	L	L
L	×	L	×	L	×	L	×	L	L

All other combinations H

$$C_{N-4} = G_0 + P_0 + G_1 + P_1 + G_2 + P_2 + G_3 + P_3 + P_0 + P_1 + G_0 + P_1 + P_2 + P_3 + G_0$$

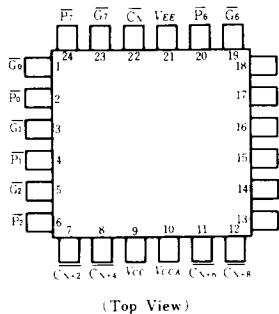
● C_{N-6} Output

C _N	G ₀	P ₀	G ₁	P ₁	G ₂	P ₂	G ₃	P ₃	G ₄	P ₄	G ₅	P ₅	C _{N-6}
×	×	×	×	×	×	×	×	×	×	×	L	×	L
×	×	×	×	×	×	×	×	×	L	×	×	L	L
×	×	×	×	×	×	×	L	×	×	L	×	L	L
×	×	×	×	×	L	×	×	L	×	L	×	L	L
×	×	×	L	×	×	L	×	L	×	L	×	L	L
×	L	×	×	L	×	L	×	L	×	L	×	L	L
L	×	L	×	L	×	L	×	L	×	L	×	L	L

All other combinations H

$$C_{N-6} = G_0 + P_0 + G_1 + P_1 + G_2 + P_2 + G_3 + P_3 + G_4 + P_4 + G_5 + P_5 + P_0 + P_1 + P_2 + P_3 + G_0 + P_1 + P_2 + P_3 + P_4 + P_5 + G_0$$

● HD100179F



● C_{N-8} Output

C _N	G ₀	P ₀	G ₁	P ₁	G ₂	P ₂	G ₃	P ₃	G ₄	P ₄	G ₅	P ₅	G ₆	P ₆	G ₇	P ₇	C _{N-8}
×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	L	×	L
×	×	×	×	×	×	×	×	×	×	×	×	×	L	×	×	L	L
×	×	×	×	×	×	×	×	×	×	×	L	×	×	×	L	L	L
×	×	×	×	×	×	×	L	×	×	L	×	L	×	L	×	L	L
×	×	×	×	×	L	×	×	L	×	L	×	L	×	L	×	L	L
×	×	×	L	×	×	L	×	L	×	L	×	L	×	L	×	L	L
×	L	×	×	L	×	L	×	L	×	L	×	L	×	L	×	L	L
L	×	L	×	L	×	L	×	L	×	L	×	L	×	L	×	L	L

All other combinations H

$$C_{N-8} = G_0 + P_0 + G_1 + P_1 + G_2 + P_2 + G_3 + P_3 + G_4 + P_4 + G_5 + P_5 + G_6 + P_6 + G_7 + P_7 + P_0 + P_1 + P_2 + P_3 + P_4 + P_5 + P_6 + P_7 + G_0 + P_1 + P_2 + P_3 + P_4 + P_5 + P_6 + P_7 + G_0$$

