

CD54HC132/3A
CD54HCT132/3A

T-51-21
T-67-21-55

HCT INPUT LOADING TABLE

INPUT	UNIT LOAD*
nA, nB	0.6

*Unit load is ΔI_{CC} limit specified in Static Characteristics Chart, e.g., 360 μ A max. @ 25°C.

Switching Speed (Limits with black dots (•) are tested 100%.)

SWITCHING CHARACTERISTICS ($C_L = 50$ pF, Input $t_r, t_f = 6$ ns)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS V_{CC} V	LIMITS								UNITS
			25°C				-55°C to +125°C				
			HC		HCT		54HC		54HCT		
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.				
Propagation Delay A, B to Y	t_{PLH}	2	—	125	—	—	—	188	—	—	ns
	t_{PHL}	4.5	—	25•	—	33•	—	38•	—	50•	
Output Transition Time	t_{TLH}	2	—	75	—	—	—	110	—	—	ns
	t_{THL}	4.5	—	15	—	15	—	22	—	22	
		6	—	13	—	—	—	19	—	—	
Input Capacitance	C_i	—	—	10	—	10	—	10	—	10	pF

Burn-In Test-Circuit Connections (Use Static II for /3A burn-in and Dynamic for Life Test.)

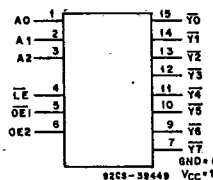
Static	STATIC BURN-IN I			STATIC BURN-IN II		
	OPEN	GROUND	V_{CC} (6V)	OPEN	GROUND	V_{CC} (6V)
CD54HC/HCT132	3,6,8,11	1,2,4,5,7,9,10,12,13	14	3,6,8,11	7	1,2,4,5,9,10,12-14
Dynamic	OPEN	GROUND	$1/2 V_{CC}$ (3V)	V_{CC} (6V)	OSCILLATOR	
CD54HC/HCT132	—	7	3,6,8,11	14	50 kHz	25 kHz
					1,2,4,5,9,10,12,13	—

NOTE: Each pin except V_{CC} and Gnd will have a resistor of 2k-47k ohms.

CD54HC137/3A **3-to-8-Line Decoder w/Latch, Inverting**
CD54HCT137/3A

The RCA CD54HC137 and CD54HCT137 are high speed silicon gate CMOS decoders, and are well suited to memory address decoding or data routing applications. These devices feature low power consumption usually associated with CMOS circuitry, yet have speeds comparable to low power Schottky TTL logic.

The circuits have three binary select inputs (A0, A1, and A2) that can be latched by an active High Latch Enable (LE) signal to isolate the outputs from select-input changes. A "Low" LE makes the output transparent to the input and the circuit functions as a one-of-eight decoder. Two Output Enable Inputs (\overline{OE}_1 and \overline{OE}_2) are provided to simplify cascading and to facilitate demultiplexing. The demultiplexing function is accomplished by using the A0, A1, A2 inputs to select the desired output and using one of the Output Enable inputs as the data input while holding the other Output Enable input in its active state. The 137 selected output is a "Low".



FUNCTIONAL DIAGRAM
Package Specifications
See Section 11, Fig. 11

CD54HC137/3A
CD54HCT137/3A

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Static Electrical Characteristics (Limits with black dots (•) are tested 100%)

CHARACTERISTICS	V _{DD}	TEST CONDITIONS				V _{IN}		LIMITS		UNITS
		HC/HCT				HC	HCT	MIN.	MAX.	
		V _O	I _O	V _{CC} or GND	V _{IL} or V _{IH}	V _{IL} or V _{IH}				
Quiescent Device Current I _{CC}	25°C	6	—	—	6,0	—	—	—	8•	μA
	-55°C	6	—	—	6,0	—	—	—	160•	
	+125°C	6	—	—	6,0	—	—	—	160•	

The complete static electrical test specification consists of the above by-type static tests combined with the standard static tests in the beginning of this section.

HCT INPUT LOADING TABLE

INPUT	UNIT LOAD*
All	1.5

*Unit load is ΔI_{CC} limit specified in Static Characteristics Chart, e.g., 360 μA max. @ 25°C.

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Switching Speed (Limits with black dots (•) are tested 100%)

SWITCHING CHARACTERISTICS (C_L = 50 pF, Input t_r, t_f = 6 ns)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS V _{CC} V	LIMITS								UNITS
			25°C				-55°C to +125°C				
			HC		HCT		54HC		54HCT		
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
Propagation Delay A _n to any \bar{Y}	t _{PLH} t _{PHL}	2	—	180	—	—	—	270	—	—	ns
		4.5	—	36•	—	38•	—	54•	—	57•	
		6	—	31	—	—	—	46	—	—	
OE _O to any \bar{Y}		2	—	145	—	—	—	220	—	—	
		4.5	—	29	—	35	—	44	—	53	
		6	—	25	—	—	—	38	—	—	
OE _I to any \bar{Y}		2	—	145	—	—	—	220	—	—	
		4.5	—	29•	—	37•	—	44•	—	56•	
		6	—	25	—	—	—	38	—	—	
LE to any \bar{Y}	2	—	190	—	—	—	285	—	—		
	4.5	—	38•	—	44•	—	57•	—	66•		
	6	—	32	—	—	—	48	—	—		
Output Transition Time	t _{TLH}	2	—	75	—	—	—	110	—	—	
	t _{THL}	4.5	—	15	—	15	—	22	—	22	
		6	—	13	—	—	—	19	—	—	
Input Capacitance	C _i	—	—	10	—	10	—	10	—	10	pF

Burn-In Test-Circuit Connections (Use Static II for /3A burn-in and Dynamic for Life Test.)

Static	STATIC BURN-IN I			STATIC BURN-IN II		
	OPEN	GROUND	V _{CC} (6V)	OPEN	GROUND	V _{CC} (6V)
CD54HC/HCT137	7,9-15	1-6,8	16	7,9-15	8	1-6,16
Dynamic	OPEN	GROUND	1/2 V _{CC} (3V)	V _{CC} (6V)	OSCILLATOR	
CD54HC/HCT137	—	4,5,8	7,9-15	3,6,16	50 kHz	25 kHz
					2	1

NOTE: Each pin except V_{CC} and Gnd will have a resistor of 2k-47k ohms.