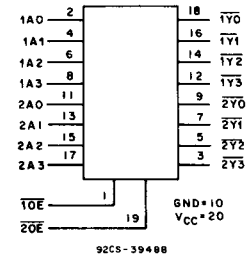
CD54HC240/3A
CD54HCT240/3A
Octal Buffer/Line Driver, 3-State, Inverting

The RCA CD54HC240 and CD54HCT240 are inverting-three-state buffers having two active-low output enables.



FUNCTIONAL DIAGRAM

Package Specifications
See Section 11, Fig. 13

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

CHARACTERISTICS		TEST CONDITIONS HC/HCT V_{DD}	V_O	I_O	V_{CC} or GND	V_{IN} HC V_{IL} or V_{IH}	V_{IN} HCT V_{IL} or V_{IH}	LIMITS MIN.	LIMITS MAX.	UNITS
Output High (Source) Current I_{OH} Min. - TTL Load	25°C	4.5	3.98	—	—	0, 4.5	0, 4.5	-6•	—	mA
	-55°C / +125°C	4.5	3.70	—	—	0, 4.5	0, 4.5	-6•	—	
Output Low (Sink) Current I_{OL} Min. - TTL Load	25°C	4.5	0.26	—	—	0, 4.5	0, 4.5	6•	—	
	-55°C / +125°C	4.5	0.40	—	—	0, 4.5	0, 4.5	6•	—	
High Level Output Voltage V_{OH} - TTL Load	25°C	4.5	—	-6	—	1.35, 3.15	0.8, 2.0	3.98•	—	V
	-55°C / +125°C	4.5	—	-6	—	1.35, 3.15	0.8, 2.0	3.70•	—	
Low Level Output Voltage V_{OL} - TTL Load	25°C	4.5	—	6	—	1.35, 3.15	0.8, 2.0	—	0.26•	
	-55°C / +125°C	4.5	—	6	—	1.35, 3.15	0.8, 2.0	—	0.40•	
Quiescent Device Current I_{CC}	25°C	6	—	—	6, 0	—	—	—	8•	μA
	-55°C / +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*
nA0-A3	1.5
$\overline{1OE}$	0.7
$\overline{2OE}$	0.7

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

CD54HC240/3A
CD54HCT240/3A

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

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

CHARACTERISTIC	SYMBOL	V_{CC}	25°C				-55°C to +125°C				UNITS
			HC		HCT		54HC		54HCT		
		V	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
Propagation Delay Data to Outputs	t_{PLH} t_{PHL}	2	—	100	—	—	—	150	—	—	ns
		4.5	—	20•	—	22•	—	30•	—	33•	
		6	—	17	—	—	—	26	—	—	
Output Enable and Disable Times	t_{PZH} t_{PZL} t_{PHZ} t_{PLZ}	2	—	150	—	—	—	225	—	—	
		4.5	—	30•	—	30•	—	45•	—	45•	
		6	—	26	—	—	—	38	—	—	
Output Transition Time	t_{TLH} t_{THL}	2	—	60	—	—	—	90	—	—	
		4.5	—	12	—	12	—	18	—	18	
		6	—	10	—	—	—	15	—	—	
Input Capacitance	C_I	—	—	10	—	10	—	10	—	10	pF
3-State Output Capacitance	C_O	—	—	20	—	20	—	20	—	20	

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/HCT240	3,5,7,9,12, 14,16,18	1,2,4,6,8,10,11,13, 15,17,19	20	3,5,7,9,12, 14,16,18	10	1,2,4,6,8,11,13,15, 17,19,20
Dynamic	**OPEN**	**GROUND**	**1/2 V_{CC} (3V)**	**V_{CC} (6V)**	**OSCILLATOR**	
					50 kHz	**25 kHz**
CD54HC/HCT240	—	1,10,19	3,5,7,9,12,14, 16,18	20	2,4,6,8,11,13, 15,17	—

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

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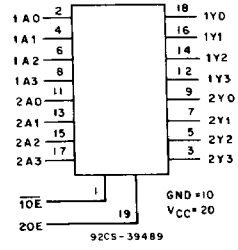
CD54HC241/3A
CD54HCT241/3A

Octal Buffer/Line Driver, 3-State, Non-Inverting

The RCA CD54HC241 and CD54HCT241 are non-inverting three-state buffers that have one active-high and one active-low output enable.



FUNCTIONAL DIAGRAM

Package Specifications

See Section 11, Fig. 13