

CD54HC583/3A

CD54HCT583/3A

T-45-07

T-46-09-05

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/HCT583	6,7,9-11	1-5,8,12-15	16	6,7,9-11	8	1-5,12-16
Dynamic	OPEN	GROUND	1/2 V _{CC} (3V)	V _{CC} (6V)	OSCILLATOR	
	CD54HC/HCT583	—	8	16	50 kHz	25 kHz
			6,7,9-11		4,13-15	1-3,5,12

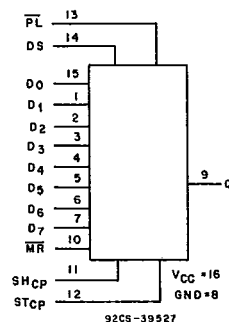
NOTE: Each pin except V_{CC} and Gnd will have a resistor of 2k-47k ohms.

CD54HC597/3A

CD54HCT597/3A

8-Bit Shift Register with I/P Latch

The RCA CD54HC597 and CD54HCT597 are high-speed si-gate CMOS devices that are pin-compatible with the LSTTL 597 devices. Each device consists of an 8-flip-flop input register and an 8-bit parallel-in/serial-in, serial-out shift register. Each register is controlled by its own clock. A "low" on the parallel load input (PL) shifts parallel stored data asynchronously into the shift register. A "low" master input (MR) clears the shift register. Serial input data can also be synchronously shifted through the shift register when PL is high.



FUNCTIONAL DIAGRAM

Package Specifications

See Section 11, Fig. 11

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

CHARACTERISTICS		TEST CONDITIONS							LIMITS	UNITS
		V _{DD}	V _O	I _O	V _{CC} or GND	V _{IN}				
						HC V _{IL} or V _{IH}	HCT 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*
D _s	0.2
D _n	0.3
PL, MR	1.5
STCP, SHCP	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	V _{CC} V	25°C				-55°C to +125°C				UNITS
			HC		HCT		54HC		54HCT		
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
Propagation Delay SH _{CP} to Q7	t _{PLH} t _{PHL}	2	—	175	—	—	—	265	—	—	ns
		4.5	—	35•	—	38•	—	53•	—	57•	
		6	—	30	—	—	—	45	—	—	
P _L to Q7		2	—	200	—	—	—	300	—	—	
		4.5	—	40•	—	48•	—	60•	—	72•	
		6	—	34	—	—	—	51	—	—	
ST _{CP} to Q7		2	—	240	—	—	—	360	—	—	
		4.5	—	48•	—	56•	—	72•	—	84•	
		6	—	41	—	—	—	61	—	—	
M _R to Q7	t _{PHL}	2	—	175	—	—	—	265	—	—	
		4.5	—	35•	—	44•	—	53•	—	66•	
		6	—	30	—	—	—	45	—	—	
Output Transition Time	t _{TLH} t _{THL}	2	—	75	—	—	—	110	—	—	
		4.5	—	15	—	15	—	22	—	22	
		6	—	13	—	—	—	19	—	—	
Input Capacitance	C _i	—	—	10	—	10	—	10	—	10	pF

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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/HCT597	9	1-8,10-15	16	9	8	1-7,10-16
Dynamic	OPEN	GROUND	$1/2 V_{CC}$ (3V)	V_{CC} (6V)	OSCILLATOR	
					50 kHz	25 kHz
CD54HC/HCT597	—	8,9,14	1-6,15	16	7,11,12	10,13

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