

HD14014B

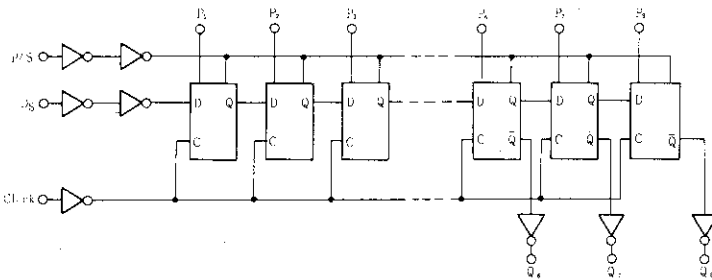
8-bit Static Shift Register

The HD14014B 8-bit shift register finds primary use in parallel-to-serial data conversion, synchronous parallel input, serial output data queuing; and other general purpose register applications requiring low power and/or high noise immunity.

FEATURES

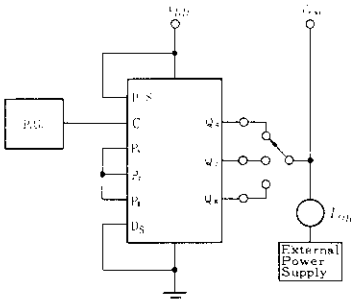
- Quiescent Current = 5nA/pkg typ @5V
- Full Static Operation from DC to 7MHz
- Supply Voltage Range = 3 to 18V
- Capable of Driving One Low-power Schottky TTL Load Over the Rated Temperature Range
- Pin-for-Pin Replacement for CD4014B and MC14014B

LOGIC DIAGRAM

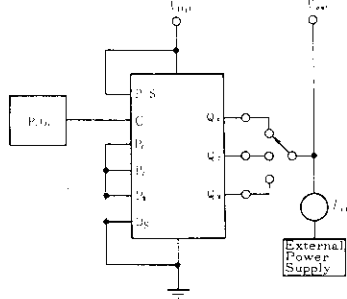


DC CHARACTERISTIC TEST CIRCUIT

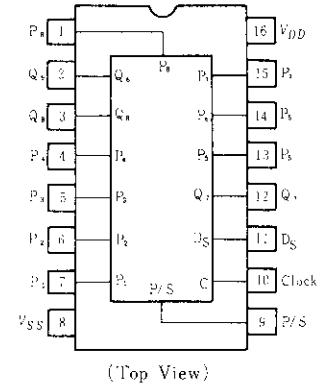
● I_{OH}



● I_{OL}



PIN ARRANGEMENT



TRUTH TABLE

Serial Operation

t	Clock	Ds	P/S
n		0	0
n+1		1	0
n+2		0	0
n+3		1	0
		x	0

Q _n t = n+6	Q _{n+1} t = n+7	Q _{n+2} t = n+8
0	?	?
1	0	?
0	1	0
1	0	1
Q _n	Q _{n+1}	Q _{n+2}

Parallel Operation

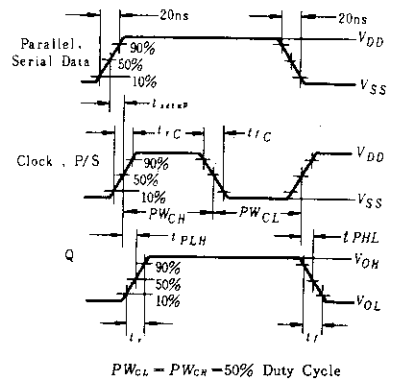
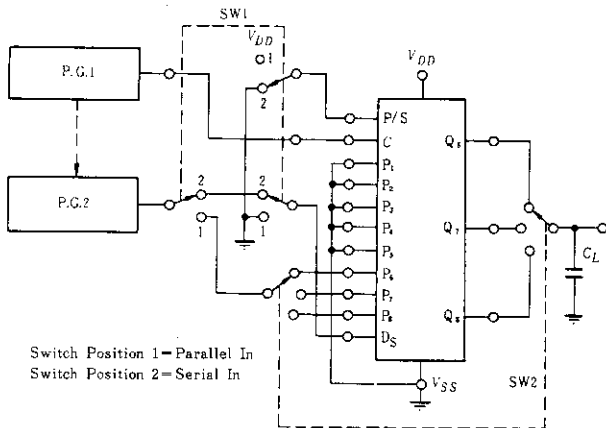
Clock	Ds	P/S	Dm	Qm*
	x	1	0	0
	x	1	1	1

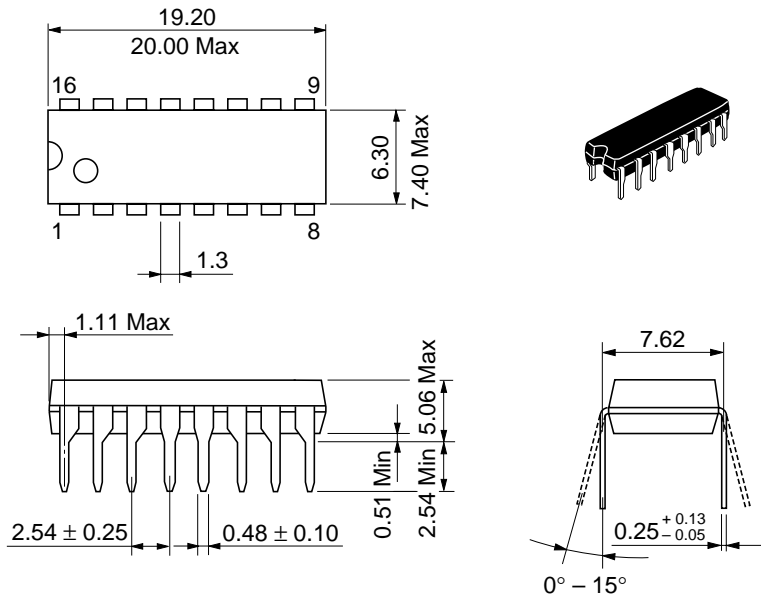
* : Q_n, Q_{n+1}, & Q_{n+2} are available externally
 x : Don't Care

■ SWITCHING CHARACTERISTICS ($C_L=50\text{pF}$, $T_a=25^\circ\text{C}$)

Characteristic	Symbol	V_{DD} (V)	min	typ	max	Unit
Output Rise Time	t_r	5.0	—	180	400	ns
		10	—	90	200	
		15	—	65	160	
Output Fall Time	t_f	5.0	—	100	200	ns
		10	—	50	100	
		15	—	37	80	
Propagation Delay Time	t_{PLH} , t_{PHL}	5.0	—	400	1000	ns
		10	—	170	400	
		15	—	115	265	
Clock Pulse Width	PW_C	5.0	500	150	—	ns
		10	200	75	—	
		15	150	40	—	
Clock Frequency	f_C	5.0	—	3.0	1.0	MHz
		10	—	6.0	2.5	
		15	—	8.0	3.0	
Parallel/Serial Control Pulse Width	PW(P/S)	5.0	500	150	—	ns
		10	200	75	—	
		15	150	40	—	
Setup Time	t_{setup}	5.0	500	150	—	ns
		10	100	50	—	
		15	80	30	—	
Input Clock Rise Time	t_{rc}	5.0	—	—	15	μs
		10	—	—	15	
		15	—	—	15	

■ SWITCHING TIME TEST CIRCUIT





Hitachi Code	DP-16
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.07 g

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