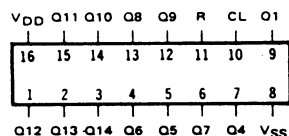
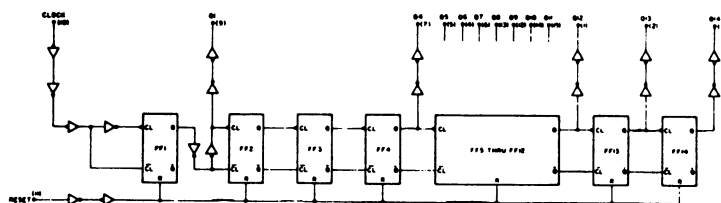


SCL4020B

FOURTEEN STAGE BINARY COUNTER



LOGIC DIAGRAM

STATIC CHARACTERISTICS: ($V_{SS} = 0\text{ V}$)

PARAMETER	CONDITIONS	V_{DD} (Vdc)	T_{LOW}^* MIN	T_{LOW}^* MAX	+25°C TYP	MAX	T_{HIGH}^{**} MIN	T_{HIGH}^{**} MAX	UNIT
QUIESCENT DEVICE CURRENT I_{DD}	$V_{IN} = V_{SS}$ OR V_{DD}	5		5	0.05	5		150	μAdc
		10		10	0.1	10		300	
		15		20	0.2	20		600	

Note: $*T_{LOW} = -55^\circ\text{C}$ for C / H devices, -40°C for E / S devices, $**T_{HIGH} = +125^\circ\text{C}$ for C / H devices, $+85^\circ\text{C}$ for E / S devices.DYNAMIC CHARACTERISTICS: ($C_L = 50\text{pF}$, $T_A = 25^\circ\text{C}$)

PARAMETER	V_{DD} Vdc	MINIMUM	TYPICAL	MAXIMUM	UNIT
PROPAGATION DELAY TIME t_{PLH} , t_{PHL} (CLOCK TO Q1)	5		180	360	ns
	10		80	160	
	15		65	130	
PROPAGATION DELAY TIME t_{PLH} , t_{PHL} (Q_i TO Q_{i+1})	5		100	200	ns
	10		40	80	
	15		30	60	
OUTPUT TRANSITION TIME t_{TLH} , t_{THL}	5		100	200	ns
	10		40	80	
	15		30	60	
CLOCK PULSE WIDTH MINIMUM PW_{CL}	5		70	140	ns
	10		30	60	
	15		20	40	
CLOCK FREQUENCY MAXIMUM f_{CL}	5	3	4.5		MHz
	10	6	9		
	15	7.5	11		
CLOCK RISE & FALL TIME MAXIMUM t_{rCL} , t_{fCL}	5		100	50	μs
	10		100	50	
	15		100	50	

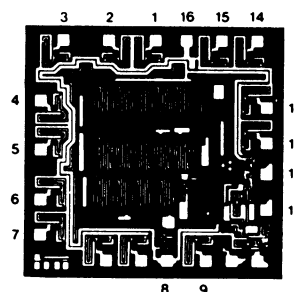
RESET OPERATIONS

PROPAGATION DELAY TIME t_{PHL}	5		200	400	ns
	10		100	200	
	15		75	150	
RESET PULSE WIDTH MINIMUM PW_R	5		100	200	ns
	10		40	80	
	15		30	60	
RESET REMOVAL TIME t_{rem}	5		150	300	ns
	10		65	125	
	15		40	75	

DIE DRAWING

SCL4020B

80 x 78 mils



Note: Refer to "SCL4000B SERIES FAMILY SPECIFICATIONS" for remaining Dynamic & Static Characteristics, and, for recommended and maximum operating conditions.