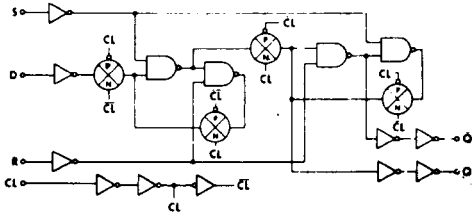
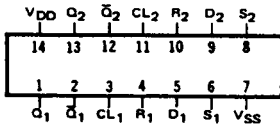


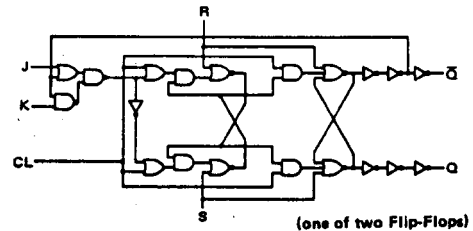
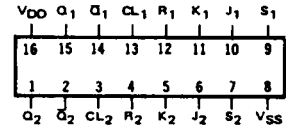
**SCL4013B**

DUAL D TYPE FLIP FLOP



**SCL4027B**

DUAL JK TYPE FLIP FLOP



**STATIC CHARACTERISTICS: ( V<sub>SS</sub> = 0 V )**

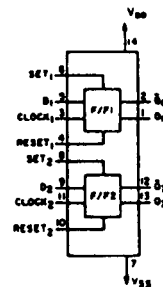
PARAMETER	CONDITIONS	V <sub>DD</sub> (Vdc)	T <sub>LOW</sub> *		+25°C			T <sub>HIGH</sub> **		UNIT
			MIN	MAX	MIN	TYP	MAX	MIN	MAX	
QUIESCENT DEVICE CURRENT I <sub>DD</sub>	V <sub>IN</sub> = V <sub>SS</sub> OR V <sub>DD</sub>	5		1		0.005	1		30	μA <sub>dc</sub>
		10		2		0.01	2		60	
		15		4		0.02	4		120	

Note: \*T<sub>LOW</sub> = -55°C for C / H devices, -40°C for E / S devices, \*\*T<sub>HIGH</sub> = +125°C for C / H devices, +85°C for E / S devices.

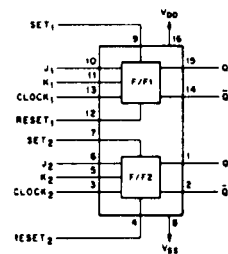
**DYNAMIC CHARACTERISTICS: ( CL = 50pF, TA = 25°C )**

PARAMETER	V <sub>DD</sub> (Vdc)	MINIMUM	TYPICAL	MAXIMUM	UNIT
PROPAGATION DELAY TIME t <sub>PLH</sub> , t <sub>PHL</sub> SCL4013B	5		125	250	ns
	10		65	130	
	15		45	90	
PROPAGATION DELAY TIME t <sub>PLH</sub> , t <sub>PHL</sub> SCL4027B	5		150	300	ns
	10		65	130	
	15		50	100	
OUTPUT TRANSITION TIME t <sub>TLH</sub> , t <sub>THL</sub>	5		100	200	ns
	10		50	100	
	15		40	80	
CLOCK PULSE WIDTH MINIMUM PW <sub>CL</sub> SCL4013B	5		70	140	ns
	10		30	60	
	15		20	40	
CLOCK PULSE WIDTH MINIMUM PW <sub>CL</sub> SCL4027B	5		165	330	ns
	10		60	120	
	15		50	100	
MAXIMUM CLOCK FREQUENCY f <sub>CL</sub> SCL4013B	5	4	7		MHz
	10	8	16		
	15	12.5	25		
MAXIMUM CLOCK FREQUENCY f <sub>CL</sub> SCL4027B	5	1.5	3		MHz
	10	4	8		
	15	5	10		

**BLOCK DIAGRAM SCL4013B**



**SCL4027B**



**SCL4013B**

DUAL D TYPE FLIP FLOP

**SCL4027B**

DUAL JK TYPE FLIP FLOP

**DYNAMIC CHARACTERISTICS:** ( CL = 50pF, TA = 25°C )

PARAMETER	V <sub>DD</sub> V <sub>dc</sub>	MINIMUM	TYPICAL	MAXIMUM	UNIT
CLOCK RISE & FALL TIME MAXIMUM t <sub>rCL</sub> , t <sub>fCL</sub> SCL4013B	5	15			μs
	10	10			
	15	5			
CLOCK RISE & FALL TIME MAXIMUM t <sub>rCL</sub> , t <sub>fCL</sub> SCL4027B	5	15			μs
	10	5			
	15	3			
MINIMUM SETUP TIME t <sub>set</sub> SCL4013B	5		25	50	ns
	10		10	20	
	15		7.5	12	
MINIMUM SETUP TIME t <sub>set</sub> SCL4027B	5		100	200	ns
	10		50	100	
	15		40	80	
MINIMUM HOLD TIME t <sub>hold</sub> SCL4013B	5		0	25	ns
	10		0	15	
	15		0	10	
MINIMUM HOLD TIME t <sub>hold</sub> SCL4027B	5		-25	0	ns
	10		-10	0	
	15		-5	0	

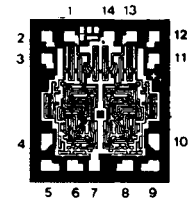
**SET AND RESET**

PROPAGATION DELAY TIME S to Q, R to Q t <sub>PLH</sub> SCL4013B	5		125	250	ns
	10		65	130	
	15		45	90	
PROPAGATION DELAY TIME S to Q, R to Q t <sub>PLH</sub> SCL4027B	5		150	300	ns
	10		65	130	
	15		50	100	
MINIMUM SET & RESET PULSE WIDTH PW <sub>S</sub> , PW <sub>R</sub> SCL4013B	5		65	130	ns
	10		30	60	
	15		25	50	
MINIMUM SET & RESET PULSE WIDTH PW <sub>S</sub> , PW <sub>R</sub> SCL4027B	5		100	200	ns
	10		50	100	
	15		40	80	
SET & RESET REMOVAL TIME t <sub>rem</sub>	5		0	25	ns
	10		0	10	
	15		0	5	

**DIE DRAWING**

SCL4013B

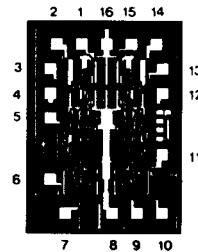
44 x 51 mils



**DIE DRAWING**

SCL4027B

49 x 68 mils



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