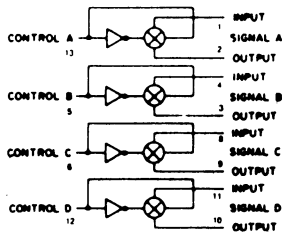
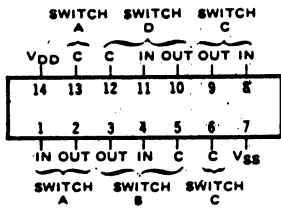


SCL4016B

QUAD ANALOG SWITCH



TYPICAL ON-RESISTANCE CHARACTERISTICS (VARIATION FROM $R_{ON} = 0 \text{ Ohm}$)

CHARACTERISTIC	SUPPLY CONDITIONS		LOAD CONDITIONS					
	V_{DD}	V_{SS}	$R_L = 1 \text{ k Ohm}$		$R_L = 10 \text{ k Ohm}$		$R_L = 100 \text{ k Ohm}$	
			Ohm	V_{IS}	Ohm	V_{IS}	Ohm	V_{IS}
R_{ON}	15	0	200	15	200	15	180	15
$R_{ON} \text{ (MAX)}$	15	0	300	11	300	9.3	320	9.2
R_{ON}	10	0	280	10	250	10	240	10
$R_{ON} \text{ (MAX)}$	10	0	500	7.4	580	5.6	610	5.5
R_{ON}	5	0	860	5	470	5	450	5
$R_{ON} \text{ (MAX)}$	5	0	1.7k	4.2	7k	2.9	33k	2.7
R_{ON}	7.5	-7.5	200	7.5	200	7.5	180	7.5
$R_{ON} \text{ (MAX)}$	7.5	-7.5	280	± 0.25	280	± 25	400	± 0.25
R_{ON}	5	-5	260	5	250	5	240	5
$R_{ON} \text{ (MAX)}$	5	-5	310	-5	250	-5	240	-5
R_{ON}	2.5	-2.5	590	2.5	450	2.5	490	2.5
$R_{ON} \text{ (MAX)}$	2.5	-2.5	720	-2.5	520	-2.5	520	-2.5
$R_{ON} \text{ (MAX)}$	2.5	-2.5	232k	± 0.25	300k	± 0.25	870k	± 0.25

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

PARAMETER	CONDITIONS	V_{SS} (Vdc)	V_{DD} (Vdc)	T_{LOW}^*		+25°C			T_{HIGH}^{**}		UNIT
				MIN	MAX	MIN	TYP	MAX	MIN	MAX	
QUIESCENT DEVICE CURRENT I_{DD}	$V_{IN} = V_{SS} \text{ OR } V_{DD}$	0	5		0.05		0.0005	0.05		1.5	μA
		0	10		0.1		0.001	0.1		3.0	
		0	15		0.2		0.002	0.2		6.0	
INPUT HIGH VOLTAGE MINIMUM V_{IH} (CONTROL INPUT)	NOTE	0	5		3.5		1.5	3.5		3.5	Vdc
		0	10		7		1.5	7		7	
		0	15		11		1.5	11		11	
INPUT LOW VOLTAGE MAXIMUM V_{IL} (CONTROL INPUT)	$V_{IS} = V_{SS}$ $V_{OS} = V_{DD}$ $I_{OS} = 10\mu\text{A}$	0	5	0.9		0.7	1.5		0.4		Vdc
		0	10	0.9		0.7	1.5		0.4		
		0	15	0.9		0.7	1.5		0.4		
SWITCH INPUT/OUTPUT LEAKAGE I_{off} (SWITCH OFF)	$V_C = V_{SS}$ $V_{IS} = V_{DD}$	0	15		± 0.1		$\pm 10^{-5}$	± 0.1		± 1	μA
ON RESISTANCE R_{ON}	$V_{IS} = (V_{DD} - V_{SS}) + 2$ $V_C = V_{DD}$ $R_L = 10\text{ k Ohm}$	0	15		360		200	400		520	Ohm
		0	10		600		250	660		840	
ON RESISTANCE MATCH DELTA R_{ON} (SAME PACKAGE)	$V_C = V_{DD} R_L = 10\text{ k Ohm}$ $V_{IS} = -7.5\text{ V TO } 7.5 \text{ V}$ $V_{IS} = -5\text{ V TO } 5\text{ V}$	-7.5	7.5				10				Ohm
		-5	5				15				

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 and H devices, $+85^\circ\text{C}$ for E / S devices.

Conditions for measuring V_{IH} :

V_{DD}	V_{OS}	V_{IS}	$I_{OS} T_{LOW}$	$I_{OS} 25^\circ\text{C}$	$I_{OS} T_{HIGH}$	UNITS
5	5	4.6	-0.25	-0.20	-0.14	mA
10	10	9.5	-0.62	-0.50	-0.35	mA
15	15	13.5	-1.8	-1.5	-1.1	mA

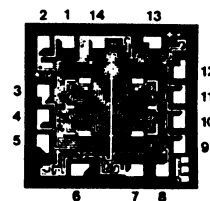
SCL4016B

QUAD ANALOG SWITCH

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

PARAMETER	CONDITIONS	V _{SS} (Vdc)	V _{DD} (Vdc)	MINIMUM	TYPICAL	MAXIMUM	UNIT	
SIGNAL INPUTS (V_{IS}) & OUTPUTS (V_{OS})								
PROPAGATION DELAY TIME (SIGNAL IN TO OUT)	V _C = V _{DD} V _{IS} = SQ. WAVE R _L = 10k Ohm	0	5		20	40	ns	
		0	10		10	20		
		0	15		7.5	15		
BANDWIDTH (-3dB) (SINEWAVE) BW	R _L = 1k Ohm	-5	+5		54		MHz	
	R _L = 10k Ohm				40			
	R _L = 100k Ohm				38			
	R _L = 1M Ohm				37			
INSERTION LOSS = 20 log ₁₀ V _{IS} + V _{OS} V _C = V _{DD} V _{IS} = 5V _{PP} CENTERED @ 0.0Vdc	R _L = 1k Ohm	-5	+5		2.3		dB	
	R _L = 10k Ohm				0.2			
	R _L = 100k Ohm				0.1			
	R _L = 1M Ohm				0.05			
SIGNAL DISTORTION (SINEWAVE) V _C = V _{DD} V _{IS} = 5V _{PP} CENTERED @ 0.0Vdc	f _{IS} = 1.0kHz R _L = 10k Ohm	-5	+5		0.4		%	
FEEDTHROUGH (-50dB) V _C = V _{DD} V _{IS} = 5V _{PP} CENTERED @ 0.0Vdc	R _L = 1k Ohm	-5	+5		1250		kHz	
	R _L = 10k Ohm				140			
	R _L = 100k Ohm				18			
	R _L = 1M Ohm				2			
CROSSTALK (-50dB) (BETWEEN 2 SWITCHES) V _C (A) = V _{DD} V _C (B) = V _{SS}	V _{IS} = 5V _{PP} CENTERED @ 0.0Vdc	-5	+5		0.9		MHz	
CAPACITANCE	V _C = V _{SS}	-5	+5				pF	
	INPUT C _{IS}							4
	OUTPUT C _{OS}							4
FEEDTHROUGH C _{IOS}					0.2			

**DIE DRAWING
SCL4016B
54 x 51 mils**



CONTROL INPUT (V_C)

PROPAGATION DELAY TIME (TURN ON)	V _{SS} < V _{IS} < V _{DD} R _L = 10k Ohm	0	5		40	80	ns
		0	10		20	40	
		0	15		15	30	
INPUT FREQUENCY MAXIMUM f _C	V _{SS} < V _{IS} < V _{DD} R _L = 1.0k Ohm	0	5		5		MHz
		0	10		10		
		0	15		12		
CROSSTALK (TO SIGNAL PORT)	V _C = SQ. WAVE R _L = 10k Ohm	0	5		30		mV
		0	10		50		
		0	15		100		

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