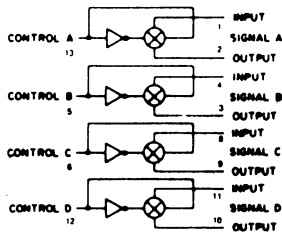
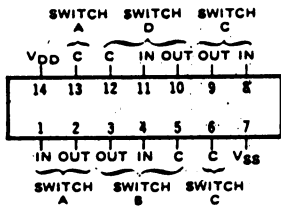


SCL4016B

QUAD ANALOG SWITCH



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

CHARACTERISTIC	SUPPLY CONDITIONS		LOAD CONDITIONS					
	V _{DD}	V _{SS}	RL = 1 k Ohm		RL = 10 k Ohm		RL = 100 k Ohm	
			Ohm	V _{IS}	Ohm	V _{IS}	Ohm	V _{IS}
R _{ON}	15	0	200	15	200	15	180	15
R _{ON} (MAX)	15	0	300	11	300	9.3	320	9.2
R _{ON}	10	0	280	10	250	10	240	10
R _{ON} (MAX)	10	0	500	7.4	580	5.6	610	5.5
R _{ON}	5	0	860	5	470	5	450	5
R _{ON} (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} (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} (MAX)	5	-5	310	-5	250	-5	240	-5
R _{ON}	2.5	-2.5	580	2.5	450	2.5	490	2.5
R _{ON} (MAX)	2.5	-2.5	720	-2.5	520	-2.5	520	-2.5
R _{ON} (MAX)	2.5	-2.5	232k	+0.25	300k	+0.25	870k	+0.25

STATIC CHARACTERISTICS: (V_{SS} = 0 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} OR V _{DD}	0	5		0.05		0.0005	0.05		1.5	μA _{dc}
		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} = 10μA	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		+10 ⁻⁵	+0.1		+1	μA _{dc}
ON RESISTANCE R _{ON}	V _{IS} = (V _{DD} - V _{SS}) + 2 V _C = V _{DD} R _L = 10k 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 = 10k Ohm V _{IS} = -7.5V TO 7.5 V V _{IS} = -5V TO 5V	-7.5	7.5				10				Ohm
		-5	5				15				

Note: *T_{LOW} = -55°C for C / H devices, -40°C for E / S devices, **T_{HIGH} = +125°C for C and H devices, +85°C for E / S devices.

Conditions for measuring V_{IH} :

V _{DD}	V _{OS}	V _{IS}	I _{OS} T _{LOW}	I _{OS} 25°C	I _{OS} T _{HIGH}	UNITS
5	5	4.6	-0.25		-0.20	mA
10	10	9.5	-0.62		-0.50	mA
15	15	13.5	-1.8		-1.1	mA

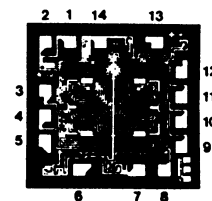
SCL4016B

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) t _{PLH} , t _{PHL}	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 V _C = V _{DD} V _{IS} = 5V _{PP} CENTERED @ 0.0Vdc	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 INPUT OUTPUT FEEDTHROUGH	V _C = V _{SS} C _{IS}	-5	+5		4		pF
	C _{OS}				4		
	C _{IOS}				0.2		

DIE DRAWING
SCL4016B
54 x 51 mils



CONTROL INPUT (V_C)

PROPAGATION DELAY TIME (TURN ON) T _{PC}	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.