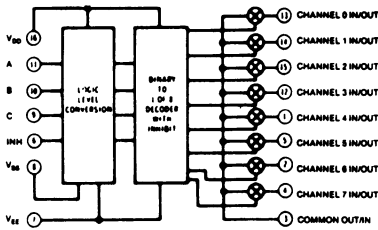
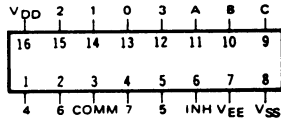


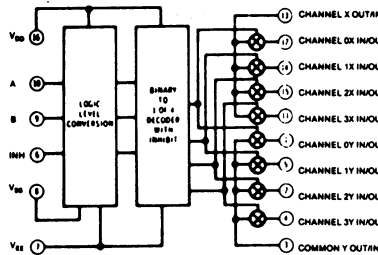
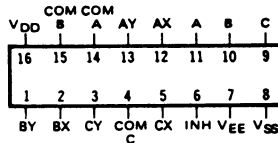
SCL4051B

SINGLE 8 CHANNEL MULTIPLEXER/DEMULTIPLEXER



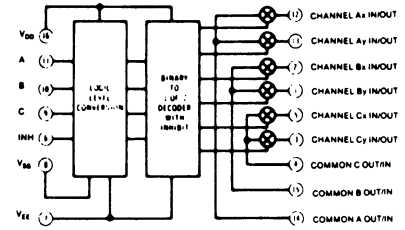
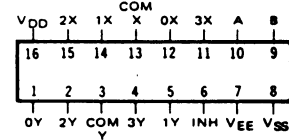
SCL4052B

DIFFERENTIAL 4 CHANNEL MULTIPLEXER/DEMULTIPLEXER



SCL4053B

TRIPLE 4 CHANNEL MULTIPLEXER/DEMULTIPLEXER



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

PARAMETER	CONDITIONS	V _{SS} (Vdc)	V _{DD} (Vdc)	V _{EE} (Vdc)	T _{LOW} **		+25°C		T _{HIGH} **		UNIT
					MIN	MAX	MIN	MAX	MIN	MAX	
QUIESCENT DEVICE CURRENT I _{DD}	V _{IN} = V _{SS} OR V _{DD}	0	5	0		5		0.05	5		150
		0	10	0		10		300			
			5	-5							
		0	15	0		29		0.2	20		600
			7.5	-7.5							
INPUT HIGH VOLTAGE MINIMUM V _{IH} (CONTROL/INHIBIT INPUT)	V _{IS} = V _{EE} V _{OS} = V _{DD} I _{OS} = 10μA	0	5	0		3.5		2.75	3.5		3.5
		0	10	0		7		5.5	7		7
		0	15	0		11		8.25	11		11
INPUT LOW VOLTAGE MAXIMUM V _{IL} (CONTROL/INHIBIT INPUT)	V _{IS} = V _{EE} V _{OS} = V _{DD} I _{OS} = 10μA	0	5	0		1.5		1.5	2.25		1.5
		0	10	0		3		4.5	3		
		0	15	0		4		6.75	4		
SWITCH INPUT/OUTPUT LEAKAGE I _{off} ANY CHANNEL OFF ALL CHANNELS OFF V _{IS} = ±7.5Vdc Inh = 7.5 Vdc	V _{IN} = V _{SS} OR V _{DD} V _{IS} = ±7.5Vdc	0	7.5	-7.5		±100		±0.01	±100		±1000
		0	7.5	-7.5		±400		±0.08	±400		±1000
						±200		±0.04	±200		±1000
						±100		±0.02	±100		±1000
ON RESISTANCE R _{ON}	V _{IS} = V _{SS} OR V _{DD} V _{EE} ≤ V _{IS} ≤ V _{DD} R _L = 10kΩ	-7.5	7.5	-7.5		220		125	280		400
		0	15	0		310		180	400		590
		-5	5	-5							
		0	10	0							
		-2.5	2.5	-2.5		2000		470	2500		3500
ON RESISTANCE MATCH DELTA R _{ON} (SAME PACKAGE)	V _{IS} = V _{SS} OR V _{DD} V _{EE} ≤ V _{IS} ≤ V _{DD} R _L = 10kΩ	-7.5	7.5	-7.5				5			
		0	15	0				10			
		-5	10	-5							
		0	10	0							
		-2.5	2.5	-2.5				50			

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.

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SINGLE 8 CHANNEL MULTIPLEXER/DEMULTIPLEXER

SCL4052B

DIFFERENTIAL 4 CHANNEL MULTIPLEXER/DEMULTIPLEXER

SCL4053B

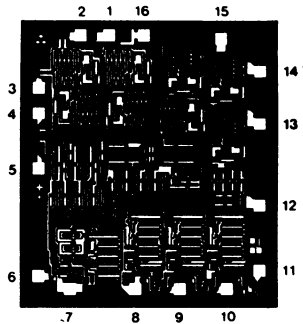
TRIPLE 4 CHANNEL MULTIPLEXER/DEMULTIPLEXER

DYNAMIC CHARACTERISTICS: ($C_L = 50\text{pF}$, $T_A = 25^\circ\text{C}$)

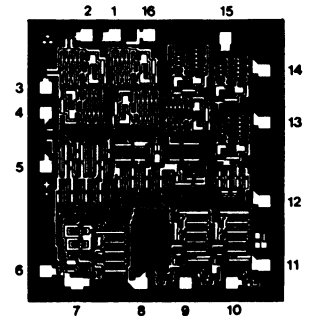
PARAMETER	CONDITIONS	V _{SS} (Vdc)	V _{DD} (Vdc)	V _{EE} (Vdc)	MINIMUM	TYPICAL	MAXIMUM	UNIT
PROPAGATION DELAY TIME (SIGNAL IN TO OUT)	$V_C = V_{DD}$ $R_L = 10\text{k}\Omega$	0	5	0		30	60	ns
	$V_{IS} = \text{SQ. WAVE}$	0	10	0		15	30	
	$V_{IN} = V_{SS}$ or V_{DD}	0	15	0		12.5	25	
BANDWIDTH (-3dB) (SINEWAVE) BW	$R_L = 1\text{k}\Omega$	0	5	-5		54		MHz
	$R_L = 10\text{k}\Omega$				40			
	$R_L = 100\text{k}\Omega$				38			
	$R_L = 1\text{M}\Omega$				37			
INSERTION LOSS $= 20 \log_{10} \frac{V_{OS} + V_{IS}}{V_C}$ $V_C = V_{DD}$ $V_{IS} = 5V_{PP}$ CENTERED @ 0.0Vdc	$R_L = 1\text{k}\Omega$	0	5	-5		2.3		dB
	$R_L = 10\text{k}\Omega$				0.2			
	$R_L = 100\text{k}\Omega$				0.1			
	$R_L = 1\text{M}\Omega$				0.05			
SIGNAL DISTORTION (SINEWAVE) $f_{IS} = 1.0\text{kHz}$ $R_L = 10\text{k}\Omega$ CENTERED @ 0.0Vdc	$V_{IN} = V_{SS}$ or V_{DD}	-7.5	7.5	-7.5		0.1		%
	$V_{IS} = 5V_{PP}$	-5	5	-5		0.2		
	CENTERED @ 0.0Vdc	-2.5	2.5	-2.5		1		
FEEDTHROUGH (-50dB) $V_{IN} = V_{SS}$ or V_{DD} $V_{IS} = 5V_{PP}$ CENTERED @ 0.0Vdc	$R_L = 1\text{k}\Omega$	0	5	-5		1250		kHz
	$R_L = 10\text{k}\Omega$				140			
	$R_L = 100\text{k}\Omega$				18			
	$R_L = 1\text{M}\Omega$				2			
CROSSTALK (-50dB) (BETWEEN 2 SWITCHES) $V_{IN} = V_{SS}$ or V_{DD} $R_L = 1\text{k}\Omega$ CENTERED @ 0.0Vdc		0	5	-5		1		MHz
CAPACITANCE	INPUT C_{IS}	0	5	-5		5		pF
	COMMON C_{OS} SCL4051B	0	5	-5		30		
	COMMON C_{OS} SCL4052B				18			
	COMMON C_{OS} SCL4053B				10			
	FEEDTHROUGH C_{IOS}	0	5	-5		0.2		
CONTROL INPUT PROPAGATION DELAY TIME (TURN ON) T_{PC}	$V_{IN} = V_{SS}$	0	7.5	-7.5		160	320	ns
	$V_{EE} \leq V_{IS} \leq V_{DD}$	0	15	0		120	240	
	$R_L = 10\text{k}\Omega$	0	5	-5		225	450	
		0	10	0		160	320	
		-2.5	2.5	-2.5		400	800	
		0	5	0		360	720	
INHIBIT INPUT PROPAGATION DELAY TIME (TURN ON) T_{PLH}, T_{PHL}	$V_{IN} = V_{SS}$ or V_{DD}	0	7.5	-7.5		160	320	ns
	$V_{IS} = V_{DD}$	0	15	0		120	240	
	$R_L = 10\text{k}\Omega$	0	5	-5		200	400	
		0	10	0		160	320	
		-2.5	2.5	-2.5		400	800	
		0	5	0		360	720	
INHIBIT RECOVERY TIME t_{rel}	$V_{IN} = V_{SS}$ or V_{DD}	0	7.5	-7.5		150	300	ns
	$V_{EE} \leq V_{IS} \leq V_{DD}$	0	15	0		80	160	
	$R_L = 10\text{k}\Omega$	0	5	-5		200	400	
		0	10	0		105	210	
		-2.5	2.5	-2.5		300	600	
		0	5	0		225	450	

DIE DRAWINGS

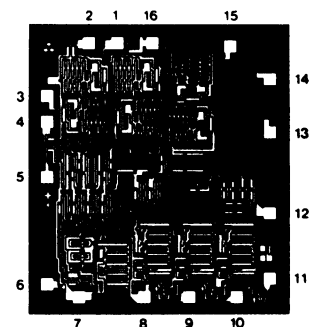
SCL4051B
81 x 89 mils



SCL4052B
81 x 89 mils



SCL4053B
81 x 89 mils



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