CD54HC4060/3A
CD54HCT4060/3A

Switching Speed (Limits with black dots (•) are tested 100%.)

SWITCHING CHARACTERISTICS (C_L = 50 pF, Input t_r, t_f = 6 ns)

CHARACTERISTIC	SYMBOL	V_{CC}	25°C				-55°C to +125°C				UNITS
			HC		HCT		54HC		54HCT		
		V	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
Propagation Delay ϕ_I to Q_4	t_{PLH} t_{PHL}	2	—	300	—	—	—	450	—	—	ns
		4.5	—	60•	—	66•	—	90•	—	100•	
		6	—	51	—	—	—	78	—	—	
Q_n to Q_{n+1}		2	—	80	—	—	—	120	—	—	
		4.5	—	16•	—	16•	—	24•	—	24•	
		6	—	14	—	—	—	20	—	—	
MR to Q_n	t_{PHL}	2	—	175	—	—	—	265	—	—	
		4.5	—	35•	—	44•	—	53•	—	66•	
		6	—	30	—	—	—	45	—	—	
Output Transition Time	t_{TLH} t_{THL}	2	—	75	—	—	—	110	—	—	
		4.5	—	15	—	15	—	22	—	22	
		6	—	13	—	—	—	19	—	—	
Input Capacitance	C_I	—	—	—	—	—	—	—	—	—	

Burn-In Test-Circuit Connections (Use Static II for /3A burn-in and Dynamic for Life Test.)

Static	STATIC BURN-IN I			STATIC BURN-IN II		
	OPEN	GROUND	V_{CC} (6V)	OPEN	GROUND	V_{CC} (6V)
CD54HC/HCT4060	1-7,9,10, 13-15	8,11,12	16	1-7,9,10, 13-15	8	11,12,16
Dynamic	OPEN	GROUND	1/2 V_{CC} (3V)	V_{CC} (6V)	OSCILLATOR 50 kHz	OSCILLATOR 25 kHz
CD54HC/HCT4060	—	8,12	1-7,9,10,13-15	16	11	—

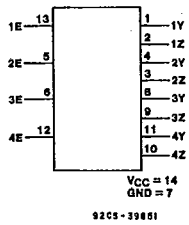
NOTE: Each pin except V_{CC} and Gnd will have a resistor of 2k-47k ohms.

CD54HC4066/3A
CD54HCT4066/3A

Quad Bilateral Switch

The RCA CD54HC4066 and CD54HCT4066 contain four independent digitally controlled analog switches that use silicon-gate CMOS technology to achieve operating speeds similiar to LSTTL with the low power consumption of standard CMOS integrated circuits.

These switches feature the characteristic linear "ON"-resistance of the metal-gate CD4066B. Each switch is turned on by a high-level voltage on its control input.



FUNCTIONAL DIAGRAM

Package Specifications

See Section 11, Fig. 10

Static Electrical Characteristics (Limits with black dots (•) are tested 100%) — Complete Specification

CHARACTERISTIC	CD54HC4066 TEST CONDITIONS CONTROL V_I V	SWITCH V_{IS} V	V_{CC} V	LIMITS +25°C Min	Typ	Max	-55/+125°C Min	Max	CD54HCT4066 TEST CONDITIONS CONTROL V_I V	SWITCH V_{IS} V	V_{CC} V	LIMITS +25°C Min	Typ	Max	-55/+125°C Min	Max	UNITS
High-Level Input Voltage V_{IH}	—	—	2	1.5	—	—	1.5	—	—	—	4.5 to 5.5	2•	—	—	2•	—	V
			4.5	3.15•	—	—	3.15•	—									
			9	6.3	—	—	6.3	—									
Low-Level Input Voltage V_{IL}	—	—	2	—	—	0.5	—	0.5	—	—	4.5 to 5.5	—	—	0.8•	—	0.8•	
			4.5	—	—	1.35•	—	1.35•									
			9	—	—	2.7	—	2.7									
Input Leakage Current (Any Control) I_{IL}	V_{CC} or Gnd	—	10	—	—	±0.1•	—	±1•	Any Voltage Between V_{CC} & Gnd	—	5.5	—	—	±0.1•	—	±1•	μA
Off-Switch Leakage Current I_Z	V_{IL}	V_{CC} or Gnd	10	—	—	±0.1•	—	±1•	V_{IL}	V_{CC} or Gnd	5.5	—	—	±0.1•	—	±1•	
"On" Resistance I_O = 1 mA R_{on}	V_{CC}	V_{CC} or Gnd	4.5	—	25	80	—	128	V_{CC}	V_{CC} or Gnd	4.5	—	25	80	—	128	Ω
			6	—	20	75	—	113			—	—	—	—	—	—	
			9	—	15	60	—	95			—	—	—	—	—	—	
	V_{CC}	V_{CC} to Gnd	4.5	—	35	95•	—	142•	V_{CC}	V_{CC} to Gnd	4.5	—	35	95•	—	142•	
			6	—	24	84	—	126			—	—	—	—	—	—	
			9	—	16	70•	—	105•			—	—	—	—	—	—	
"On" Resistance Between Any Two Switches ΔR_{on}	V_{CC}	—	4.5	—	1	—	—	—	V_{CC}	—	4.5	—	1	—	—	—	
			6	—	0.75	—	—	—			—	—	—	—	—	—	
			9	—	0.5						—	—	—	—	—	—	
Quiescent Device Current I_{CC}	V_{CC} or Gnd	—	6	—	—	2•	—	40•	V_{CC} or Gnd	—	5.5	—	—	2•	—	40•	μA
			10	—	—	16	—	320									
Additional Quiescent Device Current per Input Pin: 1 Unit Load ΔI_{CC}*	—	—	—	—	—	—	—	—	V_{CC}-2.1	—	4.5 to 5.5	—	100	360	—	490	

*For dual-supply systems theoretical worst case (V_I = 2.4 V, V_{CC} = 5.5 V) specification is 1.8 mA.

HCT INPUT LOADING TABLE

INPUT	UNIT LOAD*
All	1

*Unit load is ΔI_{CC} limit specified in Static Characteristics Chart, e.g., 360 μA max. @ 25°C.

CD54HC4066/3A
CD54HCT4066/3A

T-51-12

Switching Speed (Limits with black dots (•) are tested 100%.)

SWITCHING CHARACTERISTICS (C_L = 50 pF, Input t_r, t_f = 6 ns)

CHARACTERISTIC	SYMBOL	V_{CC} V	25°C HC Min.	25°C HC Max.	25°C HCT Min.	25°C HCT Max.	-55°C to +125°C 54HC Min.	-55°C to +125°C 54HC Max.	-55°C to +125°C 54HCT Min.	-55°C to +125°C 54HCT Max.	UNITS
Propagation Delay Switch In to Out	t_{PLH} t_{PHL}	2	—	60	—	—	—	90	—	—	ns
		4.5	—	12	—	12	—	18	—	18	
		9	—	8	—	—	—	13	—	—	
Switch Turn On Delay	t_{PZH} t_{PZL}	2	—	100	—	—	—	150	—	—	
		4.5	—	20•	—	24•	—	30•	—	36•	
		9	—	12	—	—	—	18	—	—	
Switch Turn Off Delay	t_{PHZ} t_{PLZ}	2	—	150	—	—	—	225	—	—	
		4.5	—	30•	—	35•	—	45•	—	53•	
		9	—	24	—	—	—	36	—	—	
Input Capacitance	C_I	—	—	10	—	10	—	10	—	10	pF

Burn-In Test-Circuit Connections (Use Static II for /3A burn-in and Dynamic for Life Test.)

Static	STATIC BURN-IN I OPEN	STATIC BURN-IN I GROUND	STATIC BURN-IN I V_{CC} (6V)	STATIC BURN-IN II OPEN	STATIC BURN-IN II GROUND	STATIC BURN-IN II V_{CC} (6V)
CD54HC/HCT4066	1-4,8-11	5-7,12,13	14	1-4,8-11	7	5,6,12-14
Dynamic	**OPEN**	**GROUND**	**1/2 V_{CC} (3V)**	**V_{CC} (6V)**	**OSCILLATOR 50 kHz**	**OSCILLATOR 25 kHz**
CD54HC/HCT4066	—	7	2,3,9,10	14	5,6,12,13	1,4,8,11

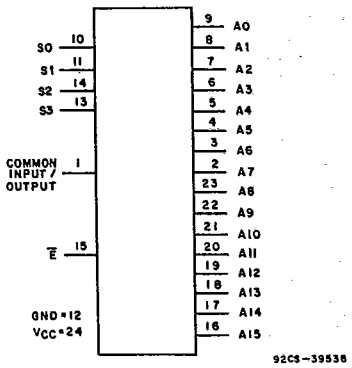
NOTE: Each pin except V_{CC} and Gnd will have a resistor of 2k-47k ohms.

CD54HC4067/3A
CD54HCT4067/3A

16-Channel Analog Multiplexer/Demultiplexer

The RCA CD54HC4067 and CD54HCT4067 are digitally controlled analog switches which utilize silicon-gate CMOS technology to achieve operating speeds similiar to LSTTL with the low power consumption of standard CMOS integrated circuits.

These analog multiplexers/demultiplexers control analog voltages that may vary across the voltage-supply range. They are bidirectional switches thus allowing any analog input to be used as an output and vice versa. The switches have low "on" resistance and low "off" leakages. In addition, these devices have an enable control which when high will disable all switches to their "off" state.



FUNCTIONAL DIAGRAM

Package Specifications

See Section 11, Fig. 15