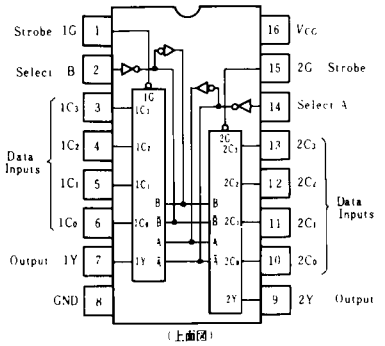
HD74HC153 ● Dual 4-to-1-line Data Selectors/Multiplexers

Information on the data inputs of each multiplexer is selected by the address on the A and B inputs, and is presented on the Y outputs. Each multiplexer possesses a strobe input which enables it when taken to a low logic level. When a high logic level is applied to a strobe input, the output of its associated multiplexer is taken low.

■ FEATURES

- High Speed Operation: t_{pd} (D to Y) = 13ns typ. (C_L = 50pF)
- High Output Current: Fanout of 10 LSTTL Loads
- Wide Operating Voltage: Vcc = 2 ~ 6V
- Low Input Current: 1μA max.
- Low Quiescent Supply Current: Icc (static) = 4μA max. (Ta = 25°C)

■ PIN ARRANGEMENT



(上面図)

■ FUNCTION TABLE

Inputs							Outputs
Select		Data				Strobe	
B	A	C_0	C_1	C_2	C_3	G	Y
×	×	×	×	×	×	H	L
L	L	L	×	×	×	L	L
L	L	H	×	×	×	L	H
L	H	×	L	×	×	L	L
L	H	×	H	×	×	L	H
H	L	×	×	L	×	L	L
H	L	×	×	H	×	L	H
H	H	×	×	×	L	L	L
H	H	×	×	×	H	L	H

×; irrelevant

■ DC CHARACTERISTICS

Item	Symbol	V_{CC}(V)	Test Conditions		Ta = 25°C min	Ta = 25°C typ	Ta = 25°C max	Ta = −40 ~ +85°C min	Ta = −40 ~ +85°C max	Unit
Input Voltage	V_{IH}	2.0			1.5	—	—	1.5	—	V
		4.5			3.15	—	—	3.15	—	
		6.0			4.2	—	—	4.2	—	
	V_{IL}	2.0			—	—	0.5	—	0.5	V
		4.5			—	—	1.35	—	1.35	
		6.0			—	—	1.8	—	1.8	
Output Voltage	V_{OH}	2.0	V_{in} = V_{IH} or V_{IL}	I_{OH} = −20μA	1.9	2.0	—	1.9	—	V
		4.5			4.4	4.5	—	4.4	—	
		6.0			5.9	6.0	—	5.9	—	
		4.5		I_{OH} = −4mA	4.18	—	—	4.13	—	
		6.0		I_{OH} = −5.2mA	5.68	—	—	5.63	—	
	V_{OL}	2.0	V_{in} = V_{IH} or V_{IL}	I_{OL} = 20μA	—	0.0	0.1	—	0.1	V
		4.5			—	0.0	0.1	—	0.1	
		6.0			—	0.0	0.1	—	0.1	
		4.5		I_{OL} = 4mA	—	—	0.26	—	0.33	
		6.0		I_{OL} = 5.2mA	—	—	0.26	—	0.33	
Input Current	I_{in}	6.0	V_{in} = V_{CC} or GND		—	—	±0.1	—	±1.0	μA
Quiescent Supply Current	I_{CC}	6.0	V_{in} = V_{CC} or GND, I_{out} = 0μA		—	—	4.0	—	40	μA

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

Item	Symbol	V_{CC}(V)	Test Conditions	Ta=25°C			Ta=−40~+85°C		Unit
				min	typ	max	min	max	
Propagation Delay Time	t_{PLH} t_{PHL}	2.0	Data to Output Y	—	—	115	—	145	ns
		4.5		—	13	23	—	29	
		6.0		—	—	20	—	25	
		2.0	Select to Output Y	—	—	160	—	200	
		4.5		—	17	32	—	40	
		6.0		—	—	27	—	34	
		2.0	Strobe to Output Y	—	—	95	—	120	
		4.5		—	10	19	—	24	
		6.0		—	—	16	—	20	
Output Rise/Fall Time	t_{TLH} t_{THL}	2.0		—	—	75	—	95	ns
		4.5		—	5	15	—	19	
		6.0		—	—	13	—	16	
Input Capacitance	C_{in}	—		—	5	10	—	10	pF