

HD100164

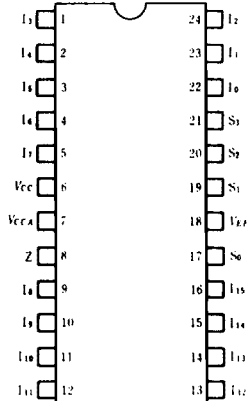
16-input Multiplexer

The HD100164 is a 16-input Multiplexer. Data paths are controlled by four select line (S_0-S_3).

Their decoding is shown in the truth table. Output data polarity is the same as the selected input data.

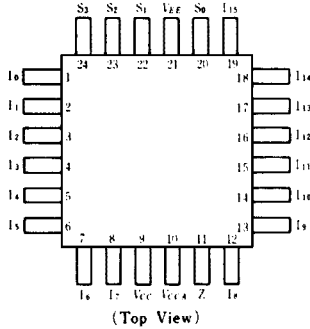
PIN ARRANGEMENT

HD100164



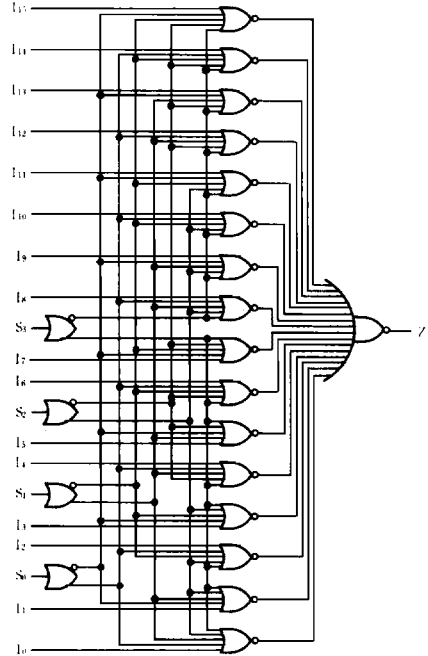
(Top View)

HD100164F



(Top View)

LOGIC DIAGRAM



TRUTH TABLE

S_0	S_1	S_2	S_3	Z
L	L	L	L	I ₀
H	L	L	L	I ₁
L	H	L	L	I ₂
H	H	L	L	I ₃
L	L	H	L	I ₄
H	L	H	L	I ₅
L	H	H	L	I ₆
H	H	H	L	I ₇
L	L	L	H	I ₈
H	L	L	H	I ₉
L	H	L	H	I ₁₀
H	H	L	H	I ₁₁
L	L	H	H	I ₁₂
H	L	H	H	I ₁₃
L	H	H	H	I ₁₄
H	H	H	H	I ₁₅

■ DC CHARACTERISTICS ($V_{EE} = -4.2$ to $-4.8V$, $V_{CC} = V_{CCA} = GND$, $T_a = 0$ to $+85^\circ C$)

Item	Symbol	Test Condition		min	typ	max	Unit
Supply Current	I_{EE}	All input open		43	70	98	mA
Input Current	I_{IH}	$V_{IN} = V_{IH\ max}$	I_a input			280	μA
			S_0, S_1 input			240	μA
			S_2, S_3 input			200	μA

Note) As for other items, refer to the "Common DC Characteristics".

■ AC CHARACTERISTICS ($V_{EE} = -2.2$ to $-2.8V$, $V_{CC} = V_{CCA} = 2.0V$)

● HD100164

Item	Symbol	Test Condition	0°C		25°C			85°C		Unit	
			min	max	min	typ	max	min	max		
Propagation Delay Time	t_{PLH}, t_{PHL}	See test circuit and waveform	I_a input to output	0.85	2.20	0.90	1.35	2.35	0.90	2.35	ns
			S_0, S_1 input to output	1.45	3.10	1.45	1.90	3.20	1.45	3.20	
			S_2, S_3 input to output	1.05	2.40	1.10	1.50	2.50	1.10	2.50	
Transition Time	t_{TLH}, t_{THL}		0.55	1.60	0.55	0.90	1.60	0.55	1.60	ns	

● HD100164F

Item	Symbol	Test Condition	0°C		25°C			85°C		Unit	
			min	max	min	typ	max	min	max		
Propagation Delay Time	t_{PLH}, t_{PHL}	See test circuit and waveform	I_a input to output	0.90	2.00	1.00	1.35	2.15	1.00	2.15	ns
			S_0, S_1 input to output	1.35	2.90	1.45	2.00	3.00	1.45	3.00	
			S_2, S_3 input to output	1.00	2.20	1.10	1.50	2.30	1.10	2.30	
Transition Time	t_{TLH}, t_{THL}		0.50	1.50	0.50	0.90	1.50	0.50	1.50	ns	

Note) The circuits in a test socket or mounted on a printed circuit board and transverse air flow greater than 2.5m/s (500 linear fpm) is maintained.