

9312 Data Selector/Multiplexer

	Schottky TTL			High-Speed TTL			Low-Power Schottky TTL			Standard TTL			Low-Power TTL			
	Device Type	Package		Device Type	Package		Device Type	Package		Device Type	Package		Device Type	Package		
		C	P		C	P		C	P		C	P		C	P	M
T.I.										SN39312	J ₁₀					
FAIRCHILD	FM93S12 FC93S12	D ₀								SN29312	J ₁₀ N ₀					
MOTOROLA		D ₀								FM9312	D ₀	F ₀	FM93L12	D ₀	F ₀	
N.S.C.										FC9312	D ₀ P ₀	F ₀	FC93L12	D ₀ P ₀	F ₀	
PHILIPS										MC9312	L ₁₀					
SIGNETICS										MC8312	L ₁₀ P ₀					
SIEMENS										DM9312	J ₁₀ N ₀	W ₀				
FUJITSU										DM8312	J ₁₀ N ₀	W ₀				
HITACHI													FJH351/9312			
MITSUBISHI																
NEC																
TOSHIBA																

Electrical Characteristics SN39312/SN29312 *

absolute maximum ratings over operating free-air temperature range

Supply voltage, V _{CC}	7V	Operating free-air temperature range	SN39312: -55°C to 125°C
Input voltage	5.5V	SN29312	0°C to 75°C
		Storage temperature range	-65°C to 150°C

recommended operating conditions

	SN39312			SN29312			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply voltage, V _{CC}	4.5	5	5.5	4.75	5	5.25	V
High-level output current, I _{OH}				-800		-800	μA
Low-level output current, I _{OL}				16		16	mA
Operating free-air temperature, T _A	-55	125	0	75		75	°C

electrical characteristics over recommended operating free-air temperature range

PARAMETER #	TEST CONDITIONS 1	MIN	TYP	MAX	UNIT
V _{IH}	High-level input voltage		2		V
V _{IL}	Low-level input voltage		0.8		V
V _I	Input clamp voltage	V _{CC} =MIN, I _I =-12mA		-1.5	V
V _{OH}	High-level output voltage	V _{CC} =MIN, V _{IH} =2V	2.4	3.4	V
V _{OL}	Low-level output voltage	V _{CC} =MIN, V _{IH} =2V, V _{IL} =0.8V, I _{OL} =-800μA	0.2	0.4	V
I _I	Input current at maximum input voltage	V _{CC} =MAX, V _I =5.5V		1	mA
I _{PHL}	High-level input current	V _{CC} =MAX, V _I =2.4V		40	μA
I _{PLH}	Low-level input current	V _{CC} =MAX, V _I =0.4V		-1.6	mA
I _{DS}	Short-circuit output current	V _{CC} =MAX	-30	-100	mA
I _{CC}	Supply current	V _{CC} =MAX, See Note	30	47	mA
I _{PLH}	from Strobe to output Y		19	28	
I _{PLH}	from Strobe to output W		17	25	ns
I _{PLH}	from Any D to output Y		10	15	
I _{PLH}	from Any D to output W		14	21	ns
I _{PLH}	from Any Select		12	18	
I _{PLH}	to output Y		13	20	ns
I _{PLH}	from Any Select		7	12	ns
I _{PLH}	to output W		20	30	ns
I _{PLH}			23	35	
I _{PLH}			18	28	ns
I _{PLH}			16	25	

NOTE: I_{CC} is measured with the strobe and data select inputs at 4.5V, all other inputs and outputs open.

*For new designs, SNS4151A/SNS4151S are recommended.

†For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

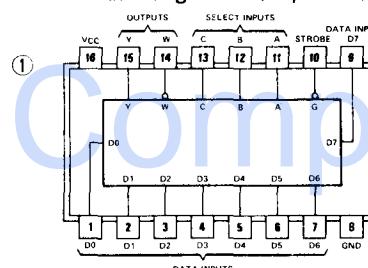
‡All typical values are at V_{CC}=5V, T_A=25°C.

◆Not more than one output should be shorted at a time, and duration of the short circuit should not exceed one second.

◆ t_{PLH} = propagation delay time, low-to-high-level output

◆ t_{PLH} = propagation delay time, high-to-low-level output

Pin Assignment (Top View)



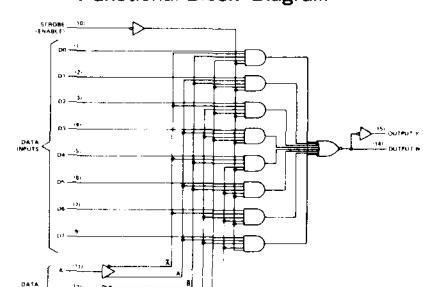
positive logic:
see function table

Function Table

INPUTS			OUTPUTS	
SELECT	STROBE	G	Y	W
C	B	A	H	L
X	X	X	L	H
L	L	L	D0	D0
L	H	L	D1	D1
L	H	L	D2	D2
L	H	H	D3	D3
H	L	L	D4	D4
H	L	H	D5	D5
H	H	L	D6	D6
H	H	H	D7	D7

H=high level.
L=low level.
X=irrelevant.
D0, D1 ... D7=the level of the respective D input

Functional Block Diagram



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