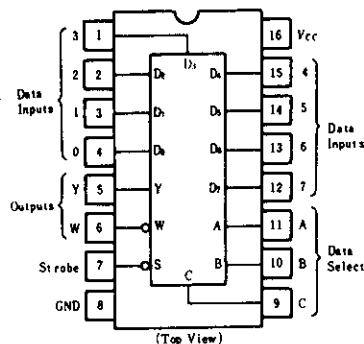


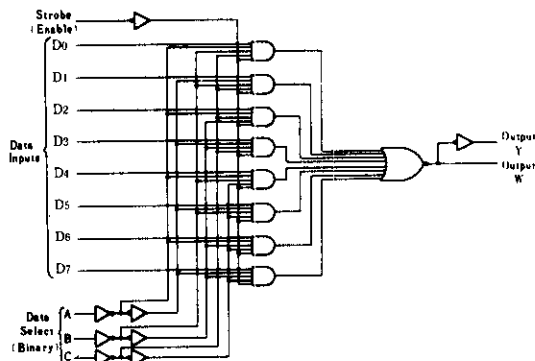
HD74LS151 • 1-of-8 Data Selectors/Multiplexers (with strobe)

This data selector/multiplexer contains full-on chip binary decoding to select the desired data source. The HD74LS151 selects one-of-eight data sources and has a strobe input which must be at a low logic level to enable this device. A high level at the strobe forces the W output high, and the Y output low.

PIN ARRANGEMENT



BLOCK DIAGRAM



FUNCTION TABLE

Inputs				Outputs	
SELECT			STROBE S	Y	W
C	B	A			
X	X	X	H	L	H
L	L	L	L	D ₀	\bar{D}_0
L	L	H	L	D ₁	\bar{D}_1
L	H	L	L	D ₂	\bar{D}_2
L	H	H	L	D ₃	\bar{D}_3
H	L	L	L	D ₄	\bar{D}_4
H	L	H	L	D ₅	\bar{D}_5
H	H	L	L	D ₆	\bar{D}_6
H	H	H	L	D ₇	\bar{D}_7

H; high level, L; low level, X; irrelevant

ELECTRICAL CHARACTERISTICS (Ta = -20 ~ +75°C)

Item	Symbol	Test Conditions	min	typ*	max	Unit
Input voltage	V _{IH}		2.0	—	—	V
	V _{IL}		—	—	0.8	V
Output voltage	V _{OH}	V _{CC} = 4.75V, V _{IH} = 2V, V _{IL} = 0.8V, I _{OH} = -400μA	2.7	—	—	V
	V _{OL}	V _{CC} = 4.75V, V _{IH} = 2V, I _{OL} = 4mA	—	—	0.4	V
		V _{IL} = 0.8V, I _{OL} = 8mA	—	—	0.5	
Input current	I _I	V _{CC} = 5.25V, V _I = 7V	—	—	0.1	mA
	I _{IH}	V _{CC} = 5.25V, V _I = 2.7V	—	—	20	μA
	I _{IL}	V _{CC} = 5.25V, V _I = 0.4V	—	—	-0.4	mA
Short-circuit output current	I _{OS}	V _{CC} = 5.25V	-20	—	-100	mA
Supply current **	I _{CC}	V _{CC} = 5.25V	—	6.0	10.0	mA
Input clamp voltage	V _{IK}	V _{CC} = 4.75V, I _{IN} = -18mA	—	—	-1.5	V

* V_{CC} = 5V, Ta = 25°C

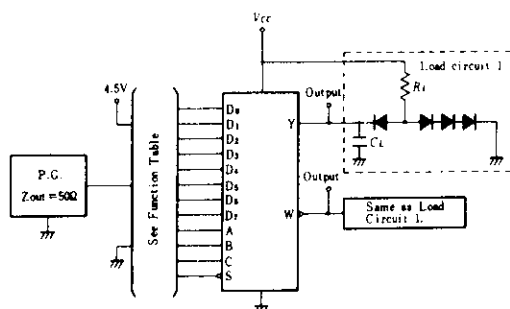
** I_{CC} is measured with all outputs open and all inputs at 4.5V.

■SWITCHING CHARACTERISTICS ($V_{CC}=5V$, $T_a=25^{\circ}C$)

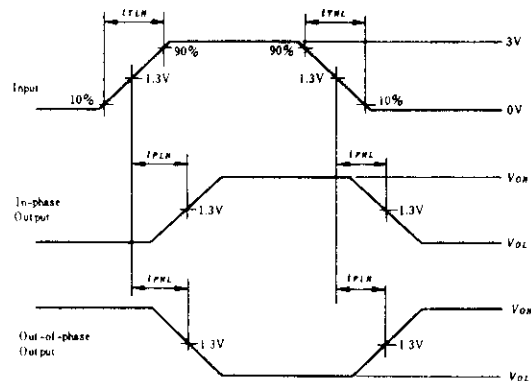
Item	Symbol	Inputs	Outputs	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	A, B, C	Y	$C_L = 15pF$, $R_L = 2k\Omega$	—	27	43	ns
	t_{PHL}	(4 Level)	Y		—	18	30	
	t_{PLH}	A, B, C	W		—	14	23	
	t_{PHL}	(3 Level)	W		—	20	32	
	t_{PLH}	Strobe	Y		—	26	42	
	t_{PHL}	Strobe	Y		—	20	32	
	t_{PLH}	Strobe	W		—	15	24	
	t_{PHL}	Strobe	W		—	18	30	
	t_{PLH}	D	Y		—	20	32	
	t_{PHL}	D	Y		—	16	26	
	t_{PLH}	D	W		—	13	21	
	t_{PHL}	D	W		—	12	20	

■TESTING METHOD

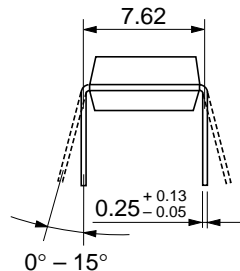
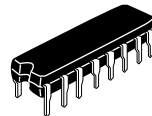
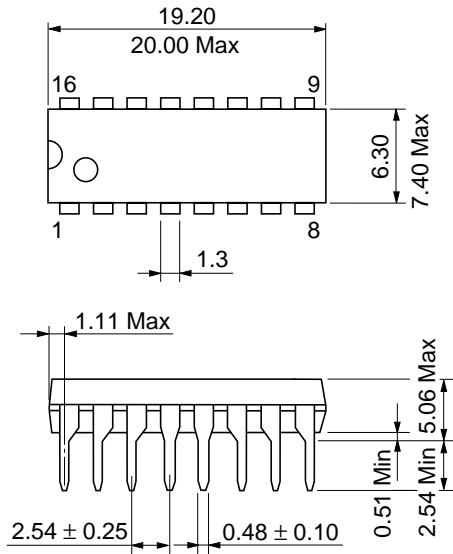
1) Test Circuit



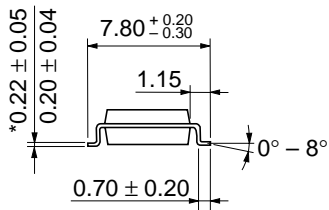
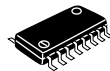
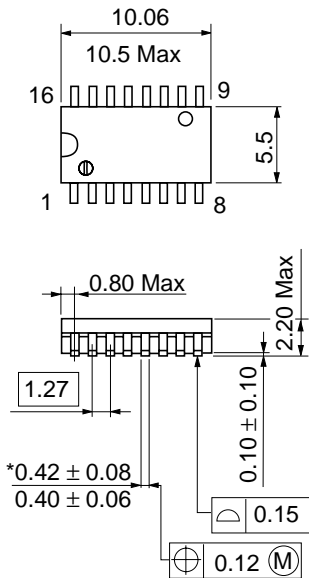
Waveform



- Notes) 1. Input pulse; $t_{TLH} \leq 15ns$, $t_{THL} \leq 6ns$, $PRR=1MHz$, duty cycle=50%
 2. C_L includes probe and jig capacitance.
 3. All diodes are 1S2074 (H).

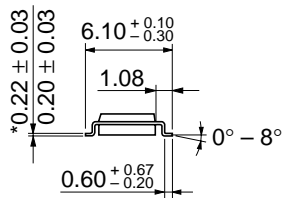
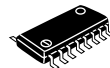
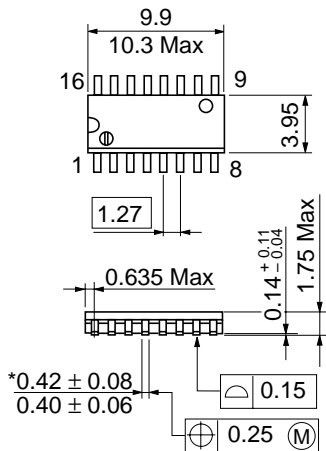


Hitachi Code	DP-16
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.07 g



*Dimension including the plating thickness
Base material dimension

Hitachi Code	FP-16DA
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.24 g



*Dimension including the plating thickness
Base material dimension

Hitachi Code	FP-16DN
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.15 g

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