

HD74LS152

1-of-8 Data Selector / Multiplexer

REJ03D0438-0200
Rev.2.00
Feb.18.2005

This data selector / multiplexer contains full-on-chip binary decoding to select the desired data source. The HD74LS152 selects one-of-eight data sources.

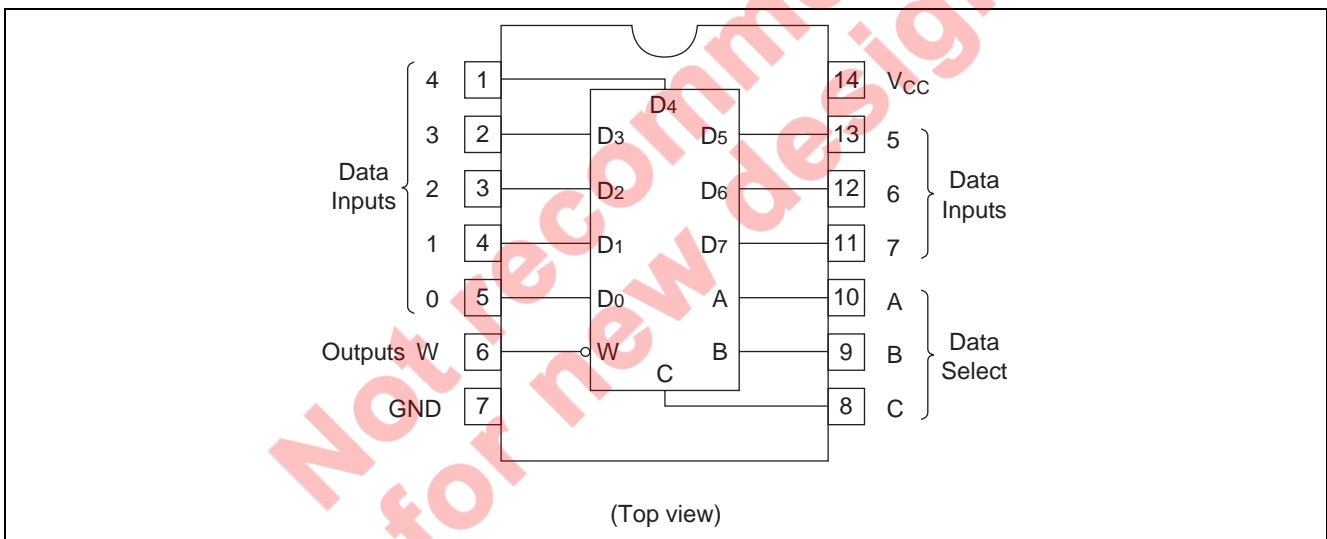
Features

- Ordering Information

Part Name	Package Type	Package Code (Previous Code)	Package Abbreviation	Taping Abbreviation (Quantity)
HD74LS152FPEL	SOP-14 pin (JEITA)	PRSP0014DF-B (FP-14DAV)	FP	EL (2,000 pcs/reel)

Note: Please consult the sales office for the above package availability.

Pin Arrangement

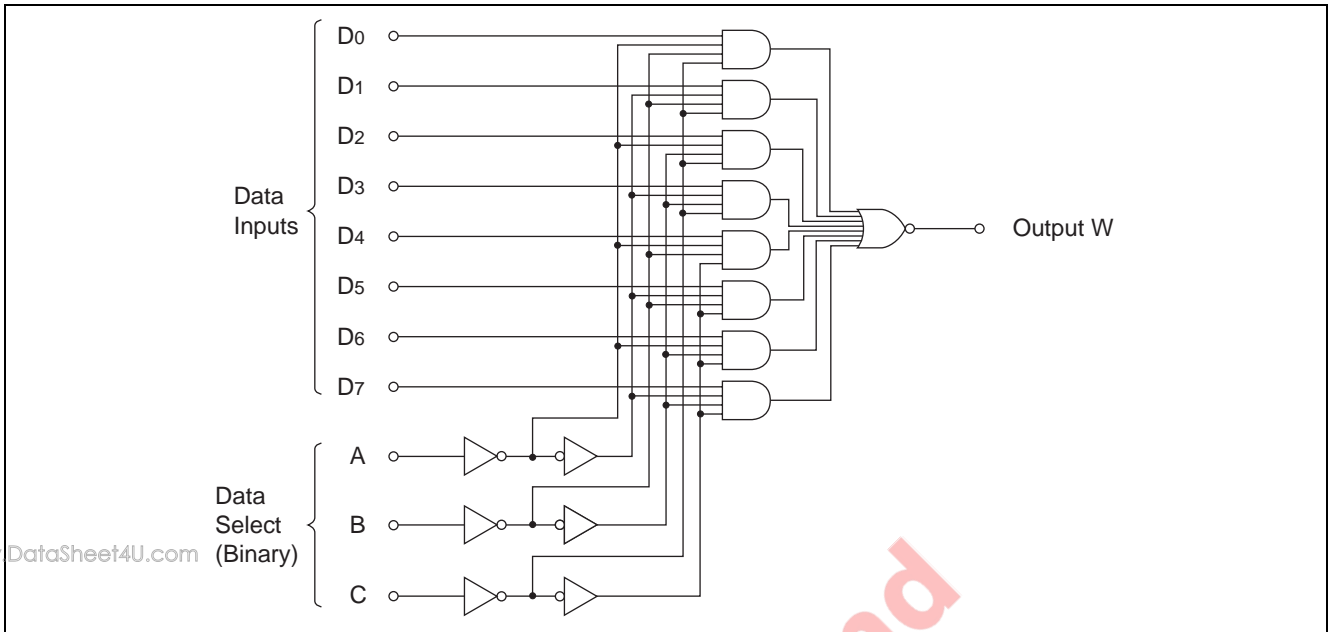


Function Table

Select inputs			Output	Select inputs			Output
C	B	A	W	C	B	A	W
L	L	L	\overline{D}_0	H	L	L	\overline{D}_4
L	L	H	\overline{D}_1	H	L	H	\overline{D}_5
L	H	L	\overline{D}_2	H	H	L	\overline{D}_6
L	H	H	\overline{D}_3	H	H	H	\overline{D}_7

Notes: D_0 to D_7 ; the level of the D respective input
H; high level
L; low level

Block Diagram



Absolute Maximum Ratings

Item	Symbol	Ratings	Unit
Supply voltage	V_{CC}	7	V
Input voltage	V_{IN}	7	V
Power dissipation	P_T	400	mW
Storage temperature	T_{stg}	-65 to +150	°C

Note: Voltage value, unless otherwise noted, are with respect to network ground terminal.

Recommended Operating Conditions

Item	Symbol	Min	Typ	Max	Unit
Supply voltage	V_{CC}	4.75	5.00	5.25	V
Output current	I_{OH}	—	—	-400	μA
	I_{OL}	—	—	8	mA
Operating temperature	T_{opr}	-20	25	75	°C

Electrical Characteristics

(Ta = -20 to +75 °C)

Item	Symbol	min.	typ.*	max.	Unit	Condition
Input voltage	V _{IH}	2.0	—	—	V	
	V _{IL}	—	—	0.8	V	
Output voltage	V _{OH}	2.7	—	—	V	V _{CC} = 4.75 V, V _{IH} = 2 V, V _{IL} = 0.8 V, I _{OH} = -400 μA
	V _{OL}	—	—	0.4	V	V _{CC} = 4.75 V, V _{IH} = 2 V, V _{IL} = 0.8 V
—		—	0.5			
Input current	I _{IH}	—	—	20	μA	V _{CC} = 5.25 V, V _I = 2.7 V
	I _{IL}	—	—	-0.4	mA	V _{CC} = 5.25 V, V _I = 0.4 V
	I _I	—	—	0.1	mA	V _{CC} = 5.25 V, V _I = 7 V
Short-circuit output current	I _{OS}	-20	—	-100	mA	V _{CC} = 5.25 V
Supply current**	I _{CC}	—	6.0	10	mA	V _{CC} = 5.25 V
Input clamp voltage	V _{IK}	—	—	-1.5	V	V _{CC} = 4.75 V, I _{IN} = -18 mA

Notes: * V_{CC} = 5 V, Ta = 25°C

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

Switching Characteristics

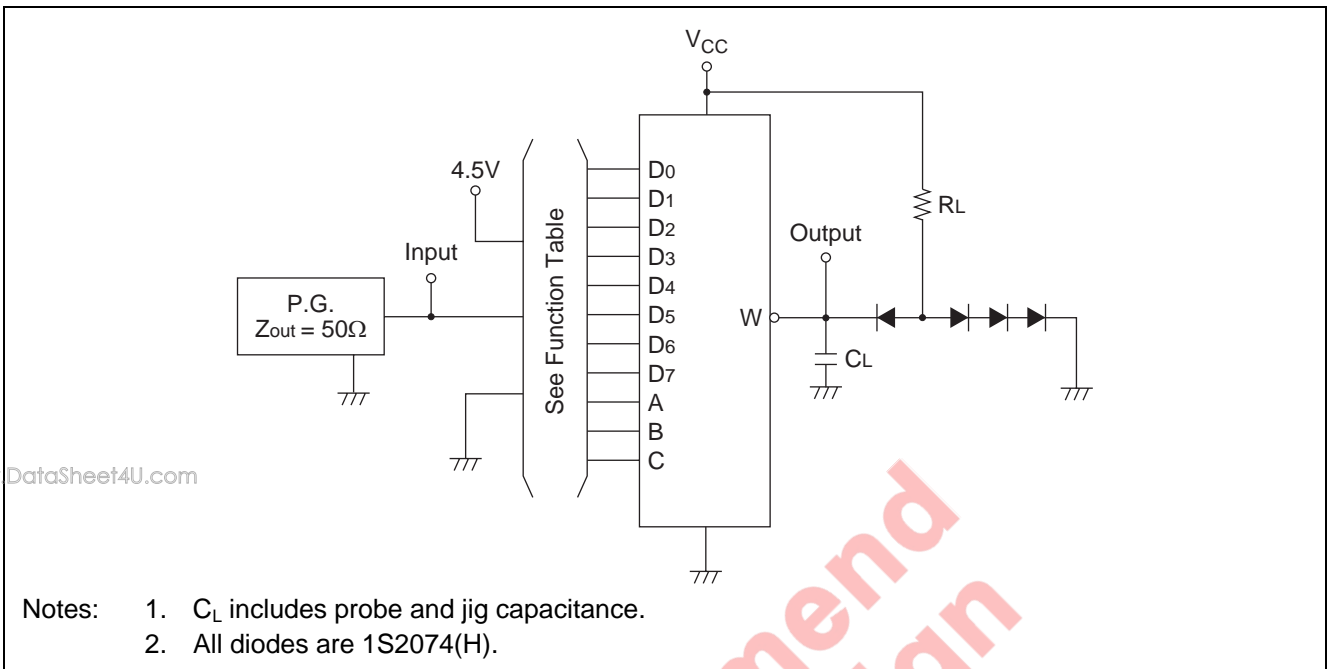
(V_{CC} = 5 V, Ta = 25°C)

Item	Symbol	Inputs	Outputs	min.	typ.	max.	Unit	Condition
Propagation delay time	t _{PLH}	A, B, C	W	—	14	23	ns	C _L = 15 pF, R _L = 2 kΩ
	t _{PHL}			—	20	32		
	t _{PLH}	Data	W	—	13	21		
	t _{PHL}			—	12	20		

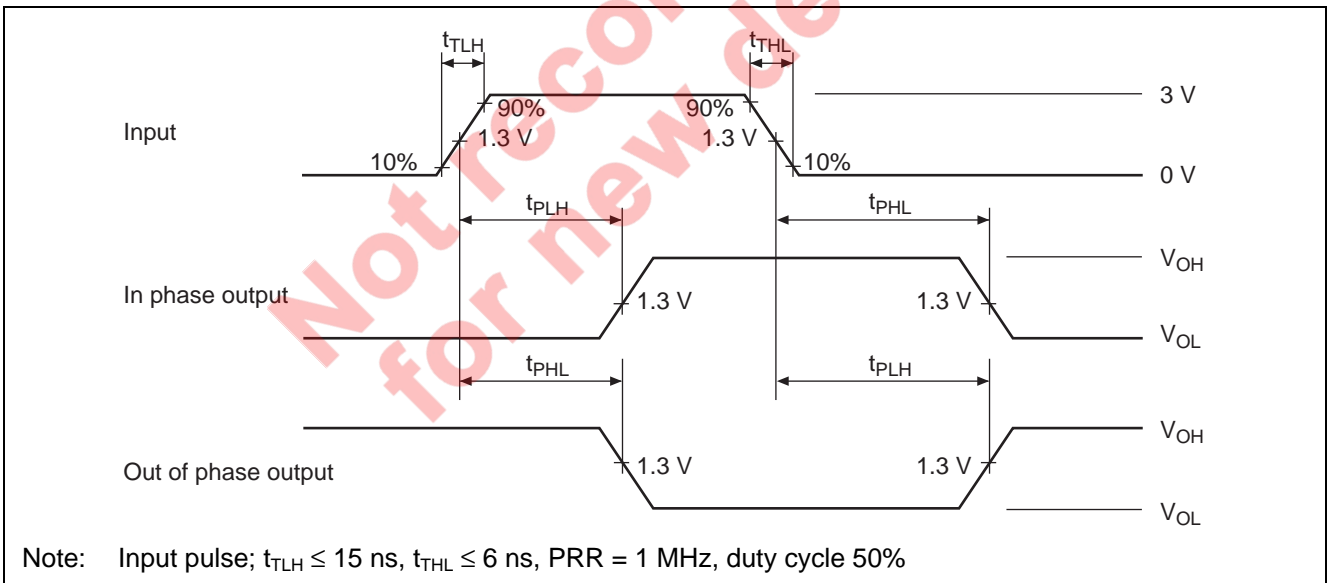
Not recommended for new design

Testing Method

Test Circuit

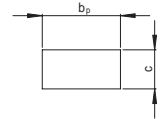
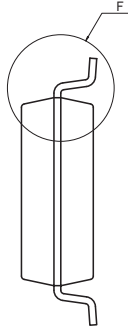
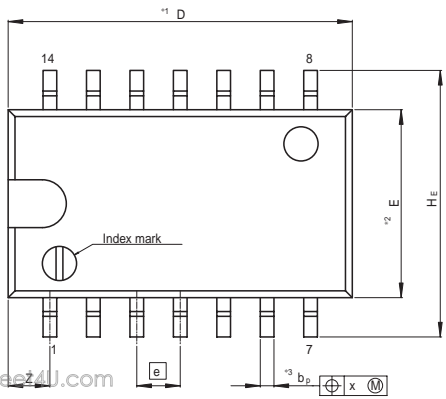


Waveform



Package Dimensions

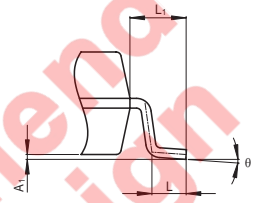
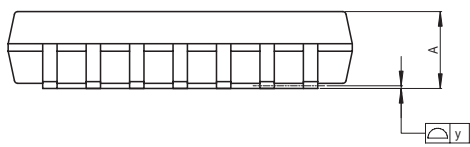
JEITA Package Code P-SOP14-5.5x10.06-1.27	RENESAS Code PRSP0014DF-B	Previous Code FP-14DAV	MASS[Typ.] 0.23g
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Terminal cross section
(Ni/Pd/Au plating)

NOTE)
1. DIMENSIONS*1 (Nom)*AND*2*
DO NOT INCLUDE MOLD FLASH.
2. DIMENSION*3*DOES NOT
INCLUDE TRIM OFFSET.

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	—	10.06	10.5
E	—	5.50	—
A ₂	—	—	—
A ₁	0.00	0.10	0.20
A	—	—	2.20
b _p	0.34	0.40	0.46
b ₁	—	—	—
c	0.15	0.20	0.25
c ₁	—	—	—
θ	0°	—	8°
H _E	7.50	7.80	8.00
e	—	1.27	—
x	—	—	0.12
y	—	—	0.15
Z	—	—	1.42
L	0.50	0.70	0.90
L ₁	—	1.15	—



Detail F

Not recommended for new design

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