

HD74LS365A

Hex Bus Drivers (with three-state outputs)

REJ03D0478-0200
Rev.2.00
Feb.18.2005

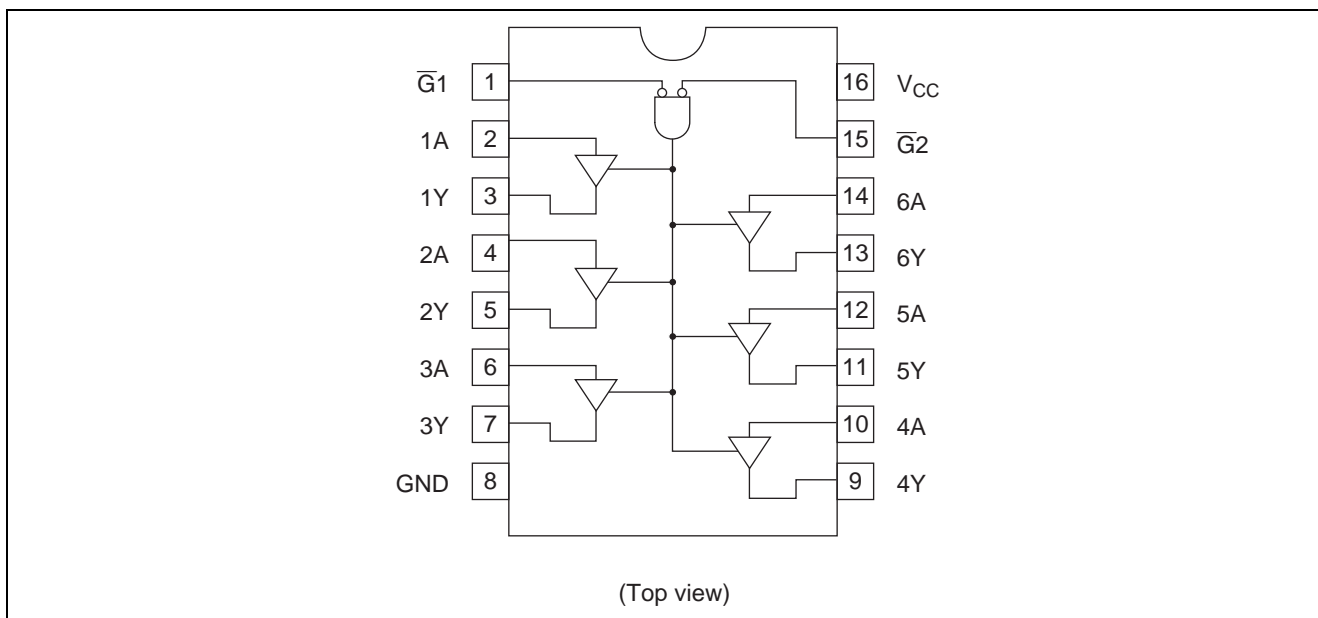
Features

- Ordering Information

Part Name	Package Type	Package Code (Previous Code)	Package Abbreviation	Taping Abbreviation (Quantity)
HD74LS365AFPEL	SOP-16 pin (JEITA)	PRSP0016DH-B (FP-16DAV)	FP	EL (2,000 pcs/reel)

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

Pin Arrangement



Function Table

Inputs			Output
\overline{G}_1	\overline{G}_2	A	Y
H	X	X	Z
X	H	X	Z
L	L	L	L
L	L	H	H

Note: H; high level, L; low level, X; irrelevant, Z; off (high-impedance) state of a 3-state output

Absolute Maximum Ratings

Item	Symbol	Ratings	Unit
Supply voltage	V_{CC}	7	V
Input voltage	V_{IN}	7	V
Output voltage (off-state)	$V_{O(off)}$	5.5	V
Power dissipation	P_T	400	mW
Operating temperature	T_{opr}	-20 to +75	°C
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}	—	—	-2.6	mA
	I_{OL}	—	—	24	mA
Operating temperature	T_{opr}	-20	25	75	°C

Electrical Characteristics

($T_a = -20$ to $+75$ °C)

Item	Symbol	min.	typ.*	max.	Unit	Condition	
Input voltage	V_{IH}	2.0	—	—	V		
	V_{IL}	—	—	0.8			
Output voltage	V_{OH}	2.4	—	—	V	$V_{CC} = 4.75$ V, $V_{IH} = 2$ V, $V_{IL} = 0.8$ V, $I_{OH} = -2.6$ mA	
	V_{OL}	—	—	0.5			
Output current	I_{OL}	—	—	0.4	μ A	$I_{OL} = 24$ mA $I_{OL} = 12$ mA	
	I_{OZH}	—	—	20			
Output current	I_{OZL}	—	—	-20	μ A	$V_O = 2.4$ V $V_O = 0.4$ V	
	I_{IH}	—	—	20			
Input current	A inputs	I_{IL}	—	—	-20	μ A	$V_{CC} = 5.25$ V, $V_I = 0.5$ V, Either \bar{G} inputs = 2 V
			—	—	-0.4	mA	$V_{CC} = 5.25$ V, $V_I = 0.4$ V, Both \bar{G} inputs = 0.4 V
	\bar{G} inputs	—	—	-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}	-40	—	-225	mA	$V_{CC} = 5.25$ V	
Supply current	I_{CC}^{**}	—	14	24	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, $T_a = 25$ °C

** With all outputs open, I_{CC} is measured with all inputs grounded and all \bar{G} inputs at 4.5 V.

Switching Characteristics

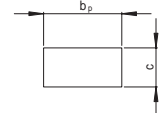
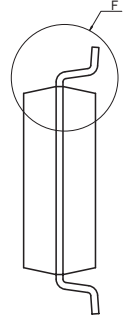
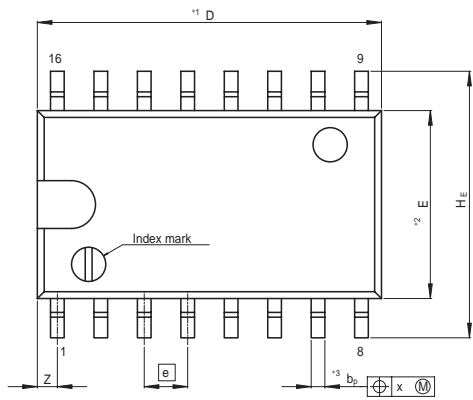
($V_{CC} = 5\text{ V}$, $T_a = 25^\circ\text{C}$)

Item	Symbol	min.	typ.	max.	Unit	Condition	
Propagation delay time	t_{PLH}	—	10	16	ns	$C_L = 45\text{ pF}$, $R_L = 667\ \Omega$	
	t_{PHL}	—	9	22			
Output enable time	t_{ZH}	—	19	35			
	t_{ZL}	—	24	40			
Output disable time	t_{HZ}	—	—	30			$C_L = 5\text{ pF}$, $R_L = 667\ \Omega$
	t_{LZ}	—	—	35			

Note: Refer to Test Circuit and Waveform of the Common Item "TTL Common Matter (Document No.: REJ27D0005-0100)".

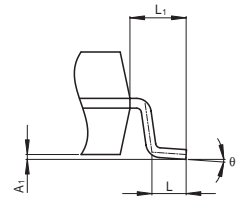
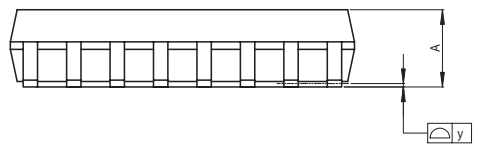
Package Dimensions

JEITA Package Code P-SOP16-5.5x10.06-1.27	RENESAS Code PRSP0016DH-B	Previous Code FP-16DAV	MASS[Typ.] 0.24g
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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.



Detail F

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	—	—	0.80
L	0.50	0.70	0.90
L ₁	—	1.15	—

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