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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Not recommended
for new design

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HD74LS366A

Hex Bus Drivers (with three-state outputs)

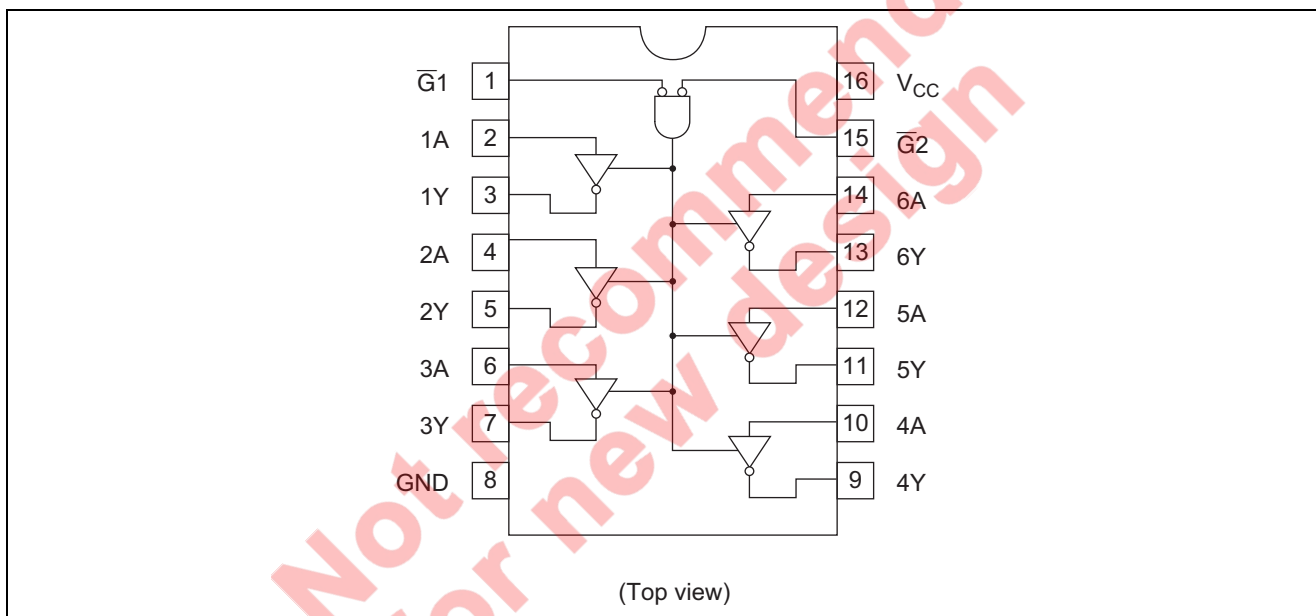
REJ03D0479-0300
Rev.3.00
Jul.22.2005

Features

- Ordering Information

Part Name	Package Type	Package Code (Previous Code)	Package Abbreviation	Taping Abbreviation (Quantity)
HD74LS366AFPEL	SOP-16 pin (JEITA)	PRSP0016DH-B (FP-16DAV)	FP	EL (2,000 pcs/reel)

Pin Arrangement



Function Table

Inputs			Output
\overline{G}_1	\overline{G}_2	A	Y
H	X	X	Z
X	H	X	Z
L	L	H	L
L	L	L	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		
		—	—	0.4	$I_{OL} = 12$ mA	
Output current	I_{OZH}	—	—	20	μ A	$V_O = 2.4$ V $V_O = 0.4$ V
	I_{OZL}	—	—	-20		
Input current	A inputs	I_{IH}	—	20	μ A	$V_{CC} = 5.25$ V, $V_I = 2.7$ V
		I_{IL}	—	-20	μ A	$V_{CC} = 5.25$ V, $V_I = 0.5$ V, Either \bar{G} inputs = 2 V
	\bar{G} inputs	I_{IL}	—	-0.4	mA	$V_{CC} = 5.25$ V, $V_I = 0.4$ V, Both \bar{G} inputs = 0.4 V
		I_I	—	-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}^{**}	—	12	21	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

** I_{CC} is measured with data inputs grounded and output control inputs at 4.5 V.

Switching Characteristics

(V_{CC} = 5 V, T_a = 25°C)

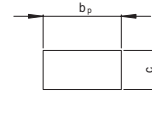
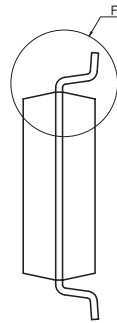
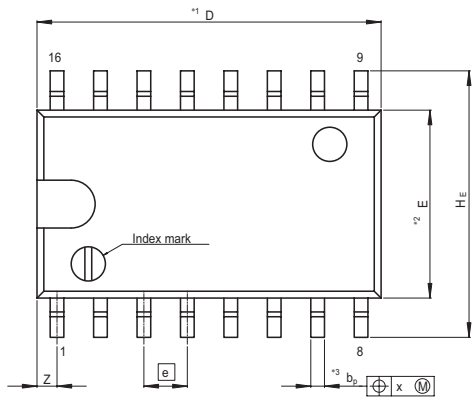
Item	Symbol	min.	typ.	max.	Unit	Condition
Propagation delay time	t _{PLH}	—	7	15	ns	C _L = 45 pF, R _L = 667 Ω
	t _{PHL}	—	12	18		
Output enable time	t _{ZH}	—	18	35		
	t _{ZL}	—	28	45		
Output disable time	t _{HZ}	—	—	32		C _L = 5 pF, R _L = 667 Ω
	t _{LZ}	—	—	35		

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

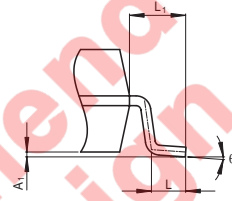
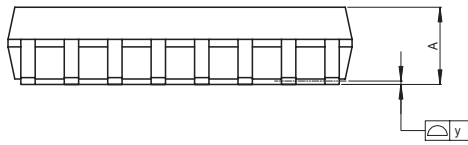
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Package Dimensions

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)



Detail F

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

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