

HD74LS368A

Hex Bus Drivers
(inverted data outputs with three-state outputs)

REJ03D0481-0200

Rev.2.00

Feb.18.2005

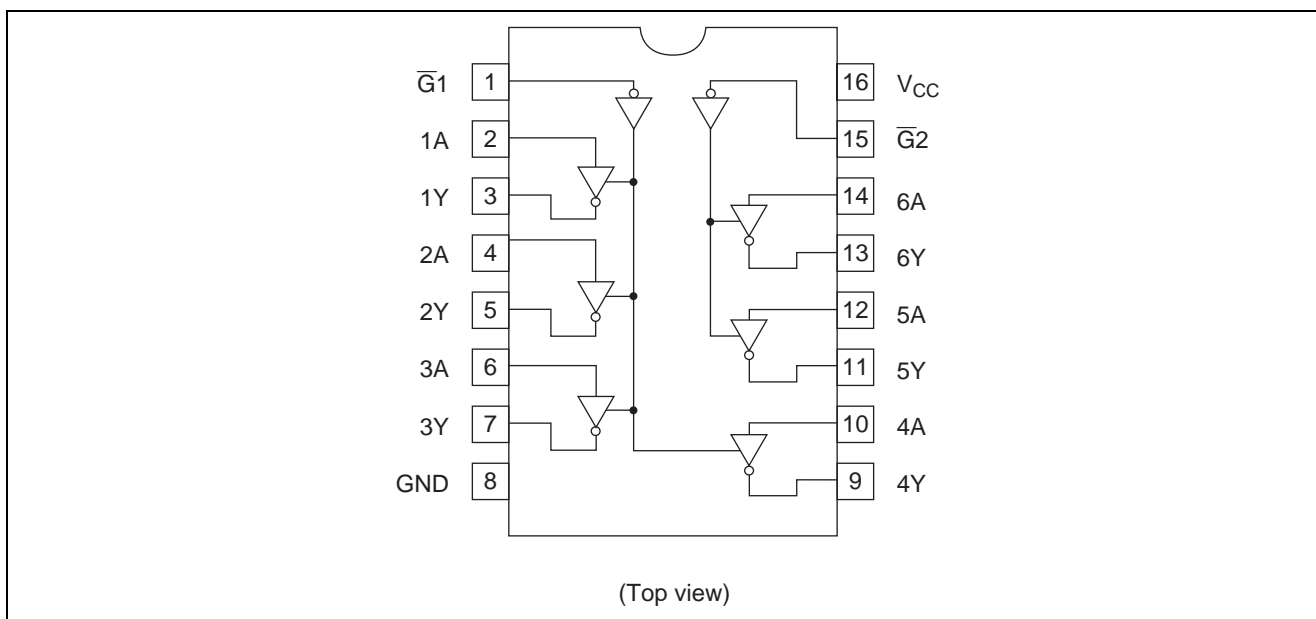
Features

- Ordering Information

Part Name	Package Type	Package Code (Previous Code)	Package Abbreviation	Taping Abbreviation (Quantity)
HD74LS368AP	DILP-16 pin	PRDP0016AE-B (DP-16FV)	P	—
HD74LS368AFPEL	SOP-16 pin (JEITA)	PRSP0016DH-B (FP-16DAV)	FP	EL (2,000 pcs/reel)
HD74LS368ARPEL	SOP-16 pin (JEDEC)	PRSP0016DG-A (FP-16DNV)	RP	EL (2,500 pcs/reel)

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

Pin Arrangement



Function Table

\bar{G}	A	Y
H	X	Z
L	L	H
L	H	L

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}	—	—	0.4			$I_{OL} = 12$ mA
—		—	0.5	$I_{OL} = 24$ mA			
Output current	I_{OZH}	—	—	20	μ A	$V_O = 2.4$ V	
	I_{OZL}	—	—	-20			$V_O = 0.4$ V
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, \overline{G} input at 2 V
	\overline{G} inputs		—	—	-0.4	mA	$V_{CC} = 5.25$ V, $V_I = 0.4$ V, \overline{G} inputs at 0.4 V
		—	—	-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

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

Switching Characteristics

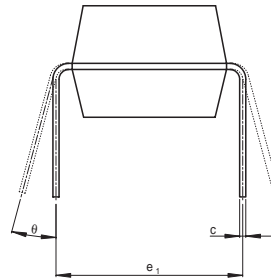
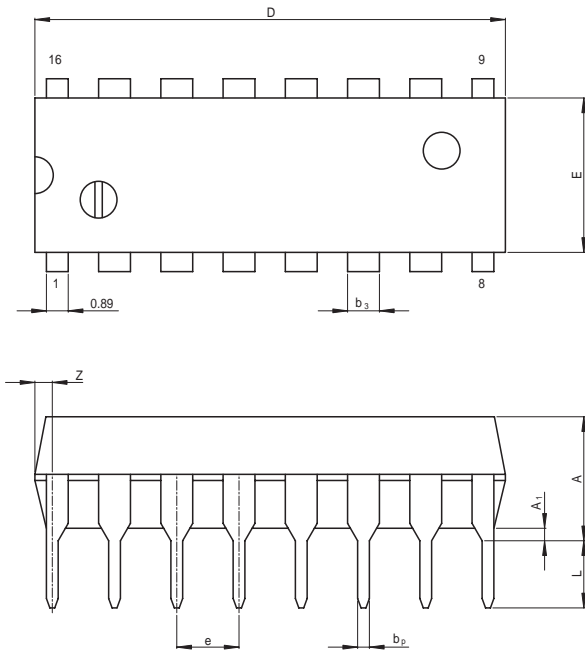
(V_{CC} = 5 V, Ta = 25°C)

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)".

Package Dimensions

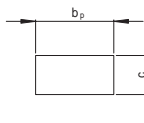
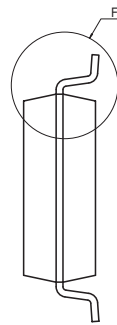
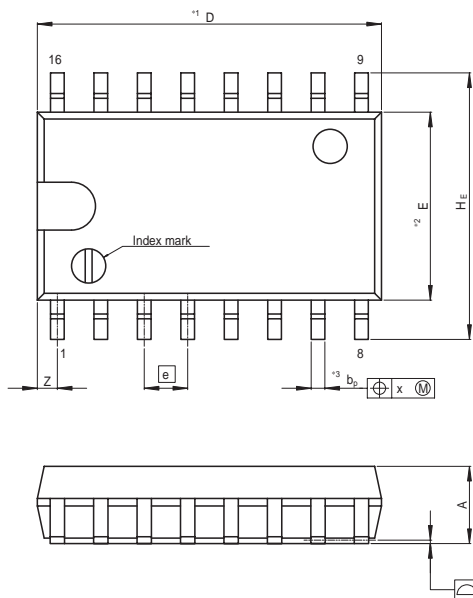
JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
P-DIP16-6.3x19.2-2.54	PRDP0016AE-B	DP-16FV	1.05g



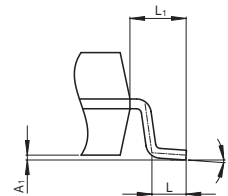
(Ni/Pd/Au plating)

Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
e ₁	—	7.62	—
D	—	19.2	20.32
E	—	6.3	7.4
A	—	—	5.06
A ₁	0.51	—	—
b _P	0.40	0.48	0.56
b ₃	—	1.30	—
c	0.19	0.25	0.31
θ	0°	—	15°
e	2.29	2.54	2.79
Z	—	—	1.12
L	2.54	—	—

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



Terminal cross section
(Ni/Pd/Au plating)



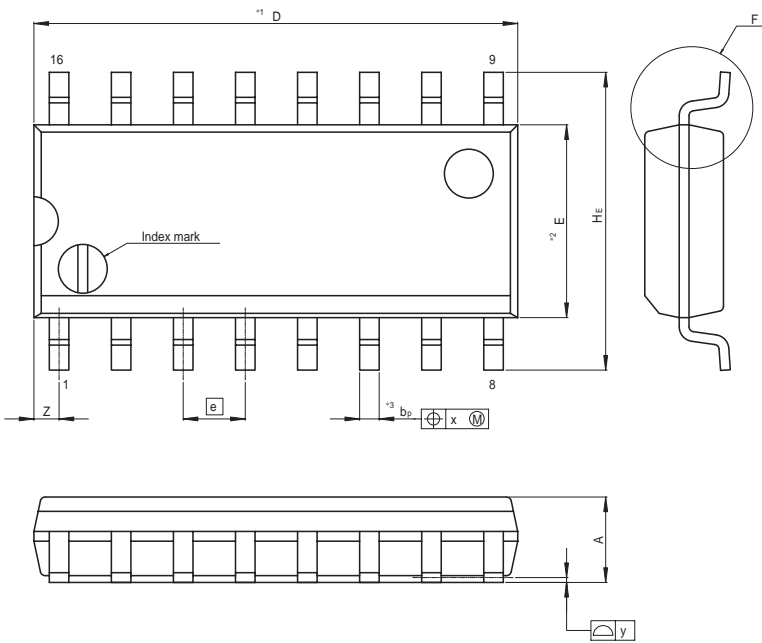
Detail F

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

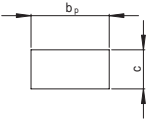
Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	—	10.06	10.5
E	—	5.50	—
A ₂	—	—	—
A ₁	0.00	0.10	0.20
A	—	—	2.20
b _P	0.34	0.40	0.46
b ₁	—	—	—
c	0.15	0.20	0.25
c ₁	—	—	—
θ	0°	—	8°
H _E	7.50	7.80	8.00
e	—	1.27	—
x	—	—	0.12
y	—	—	0.15
Z	—	—	0.80
L	0.50	0.70	0.90
L ₁	—	1.15	—

HD74LS368A

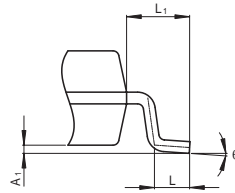
JEITA Package Code P-SOP16-3.95x9.9-1.27	RENESAS Code PRSP0016DG-A	Previous Code FP-16DNV	MASS[Typ.] 0.15g
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NOTE)
1. DIMENSIONS *1 (Nom) *AND* 2*
DO NOT INCLUDE MOLD FLASH.
2. DIMENSION *3* DOES NOT
INCLUDE TRIM OFFSET.



Terminal cross section
(Ni/Pd/Au plating)



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	—	9.90	10.30
E	—	3.95	—
A ₂	—	—	—
A ₁	0.10	0.14	0.25
A	—	—	1.75
b _p	0.34	0.40	0.46
b ₁	—	—	—
c	0.15	0.20	0.25
c ₁	—	—	—
θ	0°	—	8°
H _E	5.80	6.10	6.20
e	—	1.27	—
x	—	—	0.25
y	—	—	0.15
Z	—	—	0.635
L	0.40	0.60	1.27
L ₁	—	1.08	—

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