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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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HD74AC366/HD74ACT366

Hex Inverter Buffer with 3-State Output

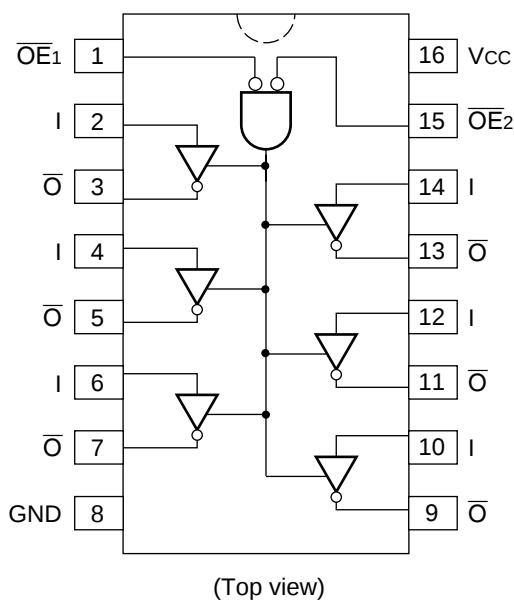


ADE-205-391 (Z)
1st. Edition
Sep. 2000

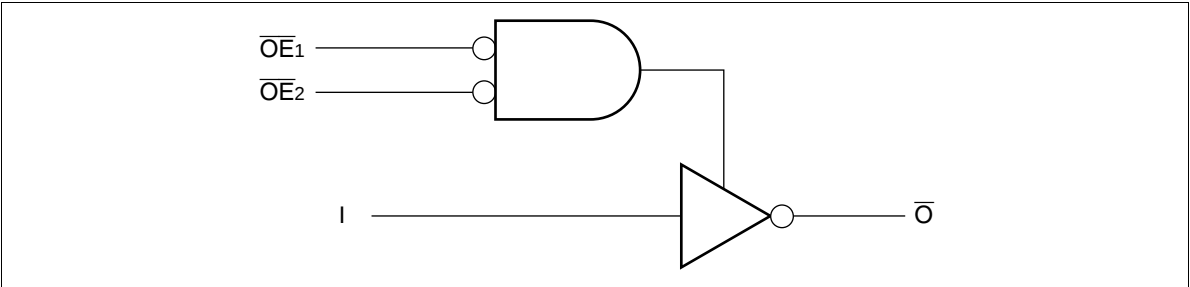
Features

- 3-State Outputs Drive Bus Lines or Buffer Memory Address Registers
- Outputs Source/Sink 24 mA
- HD74ACT366 has TTL-Compatible Inputs

Pin Arrangement



Logic Symbol



Pin Names

$\overline{OE}_1, \overline{OE}_2$	3-State Output: Enable Input (Active Low)
I	Inputs
$\overline{O}$	Outputs

Truth Table

Inputs			Output
$\overline{OE}_1$	$\overline{OE}_2$	I	$\overline{O}$
L	L	L	H
L	L	H	L
X	H	X	Z
H	X	X	Z

- H : High Voltage Level
L : Low Voltage Level
X : Immaterial
Z : High Impedance

DC Characteristics (unless otherwise specified)

Item	Symbol	Max	Unit	Condition
Maximum quiescent supply current	I_{CC}	80	μA	$V_{IN} = V_{CC}$ or ground, $V_{CC} = 5.5 V$, $T_a = \text{Worst case}$
Maximum quiescent supply current	I_{CC}	8.0	μA	$V_{IN} = V_{CC}$ or ground, $V_{CC} = 5.5 V$, $T_a = 25^\circ C$
Maximum I_{CC}/input (HD74ACT366)	I_{CCT}	1.5	mA	$V_{IN} = V_{CC} - 2.1 V$, $V_{CC} = 5.5 V$, $T_a = \text{Worst case}$

AC Characteristics: HD74AC366

Item	Symbol	V _{CC} (V)*1	Ta = +25°C C _L = 50 pF			Ta = -40°C to +85°C C _L = 50 pF		Unit
			Min	Typ	Max	Min	Max	
Propagation delay	t _{PLH}	3.3	1.0	7.0	9.0	1.0	10.0	ns
		5.0	1.0	5.0	7.0	1.0	7.5	
Propagation delay	t _{PHL}	3.3	1.0	7.0	9.0	1.0	10.0	ns
		5.0	1.0	4.5	7.0	1.0	7.5	
Enable time	t _{ZH}	3.3	1.0	9.0	13.0	1.0	13.5	ns
		5.0	1.0	7.0	9.5	1.0	10.0	
Enable time	t _{ZL}	3.3	1.0	10.0	12.5	1.0	13.5	ns
		5.0	1.0	7.5	9.5	1.0	10.0	
Disable time	t _{HZ}	3.3	1.0	9.5	12.0	1.0	12.5	ns
		5.0	1.0	7.5	10.0	1.0	10.5	
Disable time	t _{LZ}	3.3	1.0	9.0	12.5	1.0	13.5	ns
		5.0	1.0	7.0	10.0	1.0	10.5	

Note: 1. Voltage Range 3.3 is 3.3 V ± 0.3 V
Voltage Range 5.0 is 5.0 V ± 0.5 V

AC Characteristics: HD74ACT366

Item	Symbol	V _{CC} (V)*1	Ta = +25°C C _L = 50 pF			Ta = -40°C to +85°C C _L = 50 pF		Unit
			Min	Typ	Max	Min	Max	
Propagation delay	t _{PLH}	5.0	1.0	6.5	9.0	1.0	10.0	ns
Propagation delay	t _{PHL}	5.0	1.0	6.0	9.0	1.0	10.0	ns
Enable time	t _{ZH}	5.0	1.0	8.0	10.0	1.0	11.0	ns
Enable time	t _{ZL}	5.0	1.0	8.0	10.0	1.0	11.0	ns
Disable time	t _{HZ}	5.0	1.0	9.0	11.0	1.0	12.0	ns
Disable time	t _{LZ}	5.0	1.0	8.5	11.0	1.0	12.0	ns

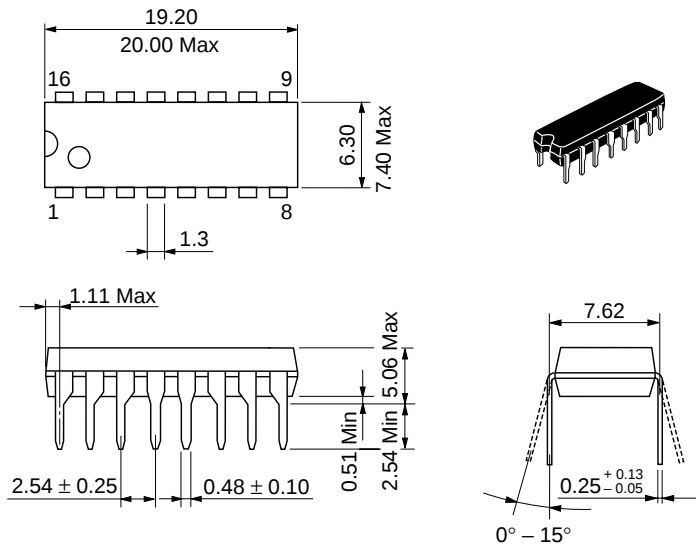
Note: 1. Voltage Range 5.0 is 5.0 V ± 0.5 V

Capacitance

Item	Symbol	Typ	Unit	Condition
Input capacitance	C _{IN}	4.5	pF	V _{CC} = 5.5 V
Power dissipation capacitance	C _{PD}	40.0	pF	V _{CC} = 5.0 V

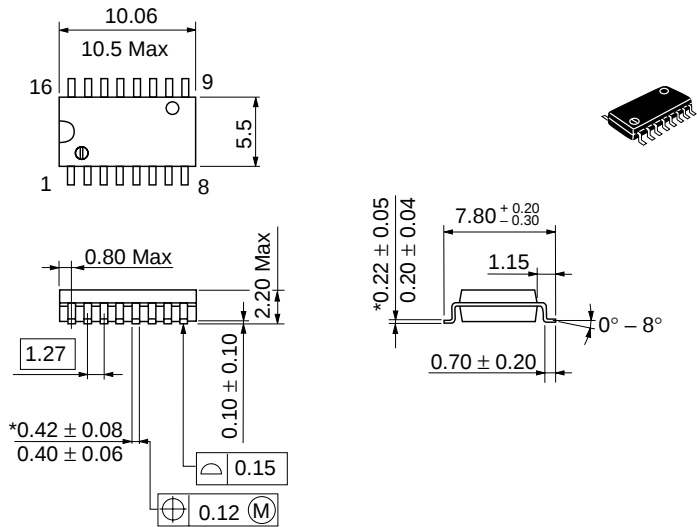
Package Dimensions

Unit: mm



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

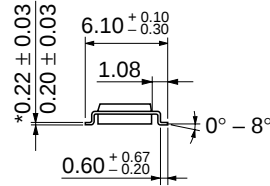
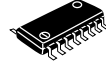
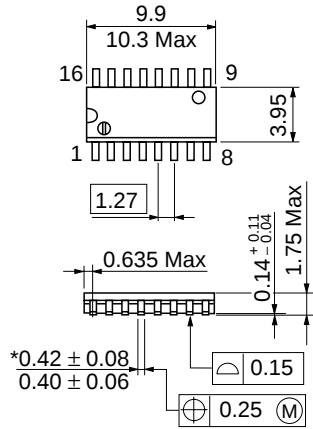
Unit: mm



*Dimension including the plating thickness
Base material dimension

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

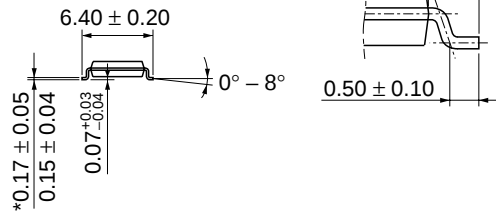
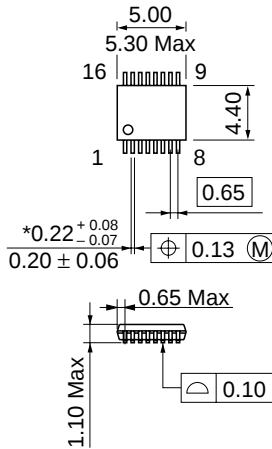
Unit: mm



*Dimension including the plating thickness
Base material dimension

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

Unit: mm



*Dimension including the plating thickness
Base material dimension

Hitachi Code	TTP-16DA
JEDEC	—
EIAJ	—
Mass (reference value)	0.05 g

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