

To all our customers

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

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

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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HD74AC86/HD74ACT86

Quad 2-Input Exclusive-OR-Gate

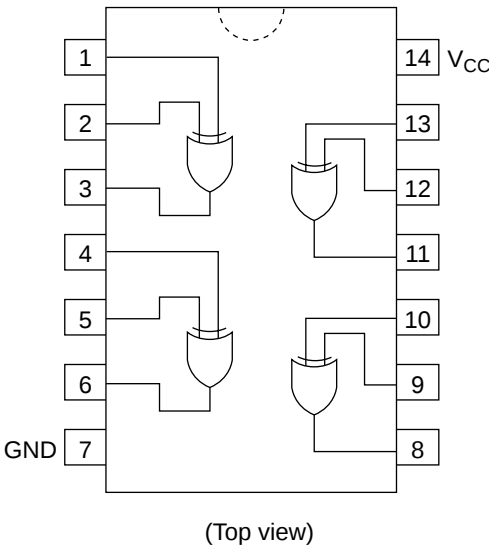


ADE-205-362 (Z)
1st. Edition
Sep. 2000

Features

- Outputs Source/Sink 24 mA
- HD74ACT86 has TTL-Compatible Inputs

Pin Arrangement



DC Characteristics (unless otherwise specified)

Item	Symbol	Max	Unit	Condition
Maximum quiescent supply current	I_{CC}	40	μA	$V_{IN} = V_{CC}$ or ground, $V_{CC} = 5.5 V$, $T_a = \text{Worst case}$
Maximum quiescent supply current	I_{CC}	4.0	μA	$V_{IN} = V_{CC}$ or ground, $V_{CC} = 5.5 V$, $T_a = 25^{\circ}C$
Maximum I_{CC}/input (HD74ACT86)	I_{CCT}	1.5	mA	$V_{IN} = V_{CC} - 2.1 V$, $V_{CC} = 5.5 V$, $T_a = \text{Worst case}$

HD74AC86/HD74ACT86

AC Characteristics: HD74AC86

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	9.5	12.5	1.0	14.0	ns
		5.0	1.0	7.5	10.0	1.0	11.0	
Propagation delay	t_{PHL}	3.3	1.0	8.5	11.5	1.0	13.0	ns
		5.0	1.0	6.5	9.0	1.0	10.0	

Note: 1. Voltage Range 3.3 is 3.3 V $\pm$ 0.3 V
Voltage Range 5.0 is 5.0 V $\pm$ 0.5 V

AC Characteristics: HD74ACT86

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	8.5	11.0	1.0	12.0	ns
Propagation delay	t_{PHL}	5.0	1.0	7.0	10.0	1.0	11.0	ns

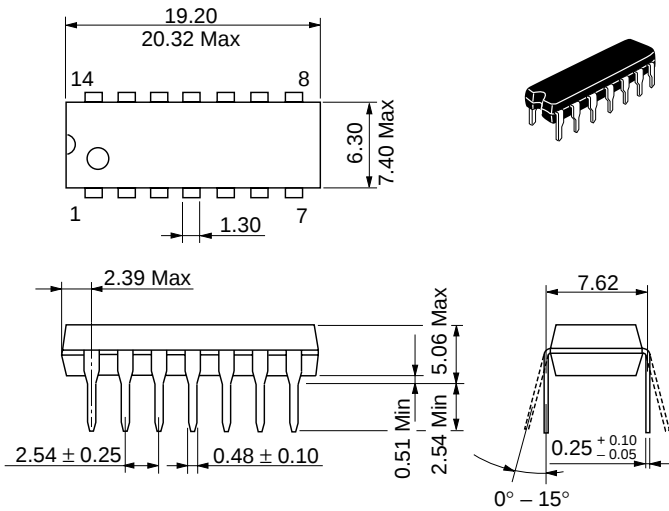
Note: 1. Voltage Range 5.0 is 5.0 V $\pm$ 0.5 V

Capacitance

Item	Symbol	Typ	Unit	Condition
Input capacitance	C _{IN}	4.5	pF	V _{CC} = 5.5 V
Power dissipation capacitance	C _{PD}	45.0	pF	V _{CC} = 5.0 V

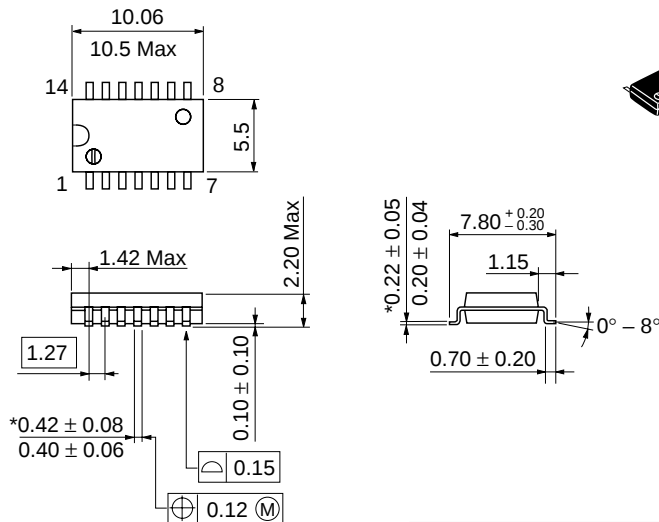
Package Dimensions

Unit: mm



Hitachi Code	DP-14
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.97 g

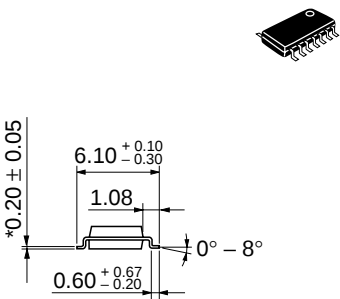
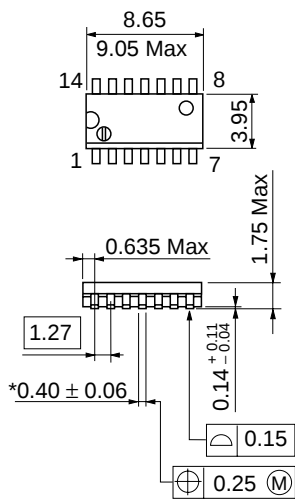
Unit: mm



*Dimension including the plating thickness
Base material dimension

Hitachi Code	FP-14DA
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.23 g

Unit: mm



*Pd plating

Hitachi Code	FP-14DN
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.13 g

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