

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!

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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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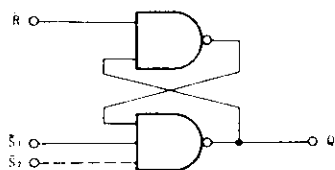
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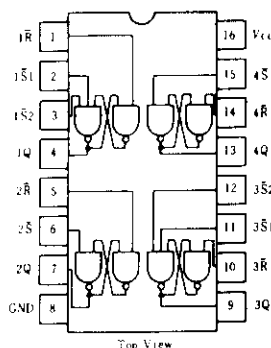
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HD74LS279 ● Quadruple S-R Latches

■ BLOCK DIAGRAM (1/4)



■ PIN ARRANGEMENT



■ FUNCTION TABLE

Inputs		Outputs
$\bar{S}^{**}$	R	Q
H	H	Q_0
L	H	H
H	L	L
L	L	H^*

- Notes) 1. H: high level, L: low level
 2. Q_0 : The level of Q before the indicated input conditions were established.
 3. *: This output level is psodo stable; that is, it may not persist when $\bar{S}$ and $\bar{R}$ inputs return to their inactive (high) level.
 4. **: For latches with double $\bar{S}$ inputs: H: both $\bar{S}$ inputs high, L: one or both $\bar{S}$ inputs low.

■ ELECTRICAL CHARACTERISTICS ($T_a = -20 \sim +75^\circ\text{C}$)

Item	Symbol	Test Conditions	min	typ*	max	Unit
Input voltage	V_{IH}		2.0	—	—	V
	V_{IL}		—	—	0.8	V
Output voltage	V_{OH}	$V_{CC} = 4.75\text{V}$, $V_{IH} = 2\text{V}$, $V_{IL} = 0.8\text{V}$, $I_{OH} = -400\mu\text{A}$	2.7	—	—	V
	V_{OL}	$V_{CC} = 4.75\text{V}$, $V_{IH} = 2\text{V}$, $V_{IL} = 0.8\text{V}$	$I_{OL} = 4\text{mA}$	—	0.4	V
			$I_{OL} = 8\text{mA}$	—	0.5	
Input current	I_{IH}	$V_{CC} = 5.25\text{V}$, $V_I = 2.7\text{V}$	—	—	20	μA
	I_{IL}	$V_{CC} = 5.25\text{V}$, $V_I = 0.4\text{V}$	—	—	-0.6	mA
	I_I	$V_{CC} = 5.25\text{V}$, $V_I = 7\text{V}$	—	—	0.1	mA
Short-circuit output current	I_{OS}	$V_{CC} = 5.25\text{V}$	-20	—	-100	mA
Supply current**	I_{CC}	$V_{CC} = 5.25\text{V}$	—	3.8	7	mA
Input clamp voltage	V_{IK}	$V_{CC} = 4.75\text{V}$, $I_{IK} = 18\text{mA}$	—	—	1.5	V

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

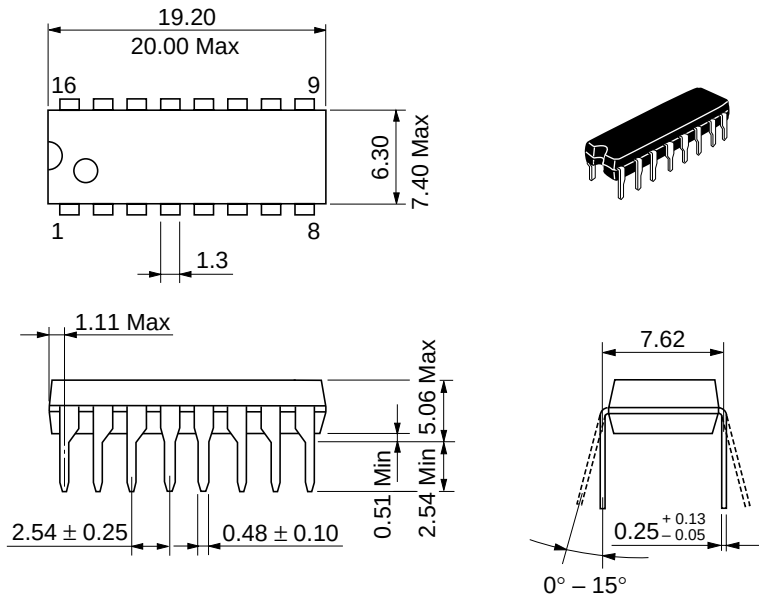
** I_{CC} is measured with all $\bar{R}$ inputs grounded, all $\bar{S}$ inputs at 4.5V, and all outputs open.

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

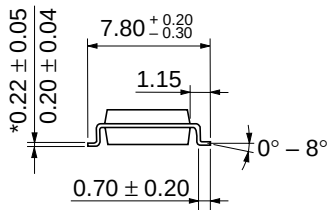
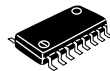
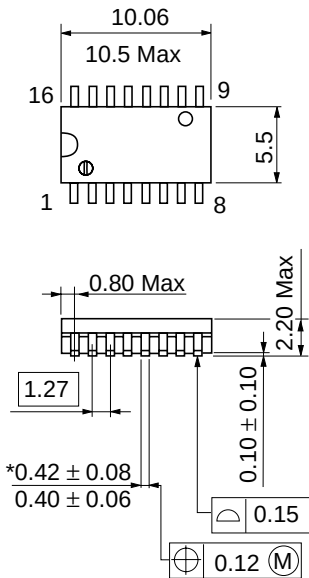
Item	Symbol	Inputs	Output	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	$\bar{S}$	Q	$C_L = 15\text{pF}$, $R_L = 2\text{k}\Omega$	—	12	22	ns
	t_{PHL}				—	13	21	ns
	t_{PHL}	$\bar{R}$			—	15	27	ns

Note) Refer to Test Circuit and Waveform of the Common Item

Unit: mm

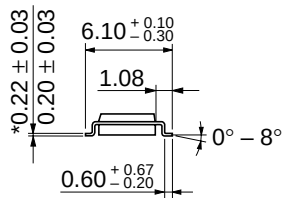
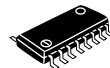
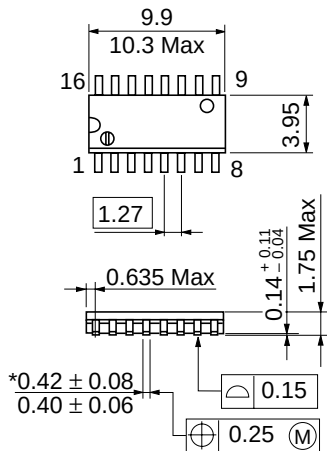


Hitachi Code	DP-16
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	1.07 g



*Dimension including the plating thickness
Base material dimension

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



*Dimension including the plating thickness
Base material dimension

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

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HITACHI

Hitachi, Ltd.

Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL	NorthAmerica	:	http://semiconductor.hitachi.com/
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For further information write to:

Hitachi Semiconductor (America) Inc. 179 East Tasman Drive, San Jose, CA 95134 Tel: <1> (408) 433-1990 Fax: <1> (408) 433-0223	Hitachi Europe GmbH Electronic components Group Dornacher Straße 3 D-85622 Feldkirchen, Munich Germany Tel: <49> (89) 9 9180-0 Fax: <49> (89) 9 29 30 00 Hitachi Europe Ltd. Electronic Components Group. Whitebrook Park Lower Cookham Road Maidenhead Berkshire SL6 8YA, United Kingdom Tel: <44> (1628) 585000 Fax: <44> (1628) 778322
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Hitachi Asia Pte. Ltd. 16 Collyer Quay #20-00 Hitachi Tower Singapore 049318 Tel: 535-2100 Fax: 535-1533 Hitachi Asia Ltd. Taipei Branch Office 3F, Hung Kuo Building, No.167, Tun-Hwa North Road, Taipei (105) Tel: <886> (2) 2718-3666 Fax: <886> (2) 2718-8180
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Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui,
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX

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