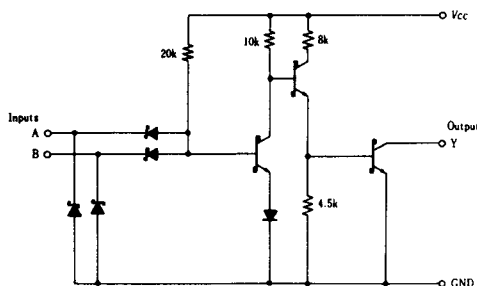
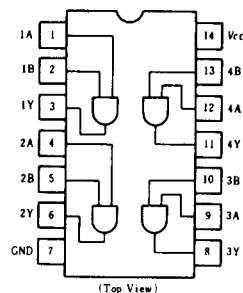


HD74LS09 ● Quadruple 2-input Positive AND Gates (with Open Collector Outputs)

■ CIRCUIT SCHEMATIC (1/4)



■ PIN ARRANGEMENT



■ RECOMMENDED OPERATING CONDITIONS

Item	Symbol	min	typ	max	Unit
High level output voltage	V_{OH}	—	—	5.5	V
Low level output current	I_{OL}	—	—	8	mA

■ 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_{OL}	$V_{CC} = 4.75\text{V}, V_{IL} = 0.8\text{V}$	$I_{OL} = 8\text{mA}$	—	0.5	V
			$I_{OL} = 4\text{mA}$	—	0.4	
Output current	I_{OH}	$V_{CC} = 4.75\text{V}, V_{IH} = 2\text{V}, V_{OH} = 5.5\text{V}$	—	—	100	μA
Input current	I_{IH}	$V_{CC} = 5.25\text{V}, V_I = 2.7\text{V}$	—	—	20	μA
	I_{IL}	$V_{CC} = 5.25\text{V}, V_I = 0.4\text{V}$	—	—	-0.4	mA
	I_I	$V_{CC} = 5.25\text{V}, V_I = 7\text{V}$	—	—	0.1	mA
Supply current	I_{CCH}	$V_{CC} = 5.25\text{V}$	—	2.4	4.8	mA
	I_{CCL}	$V_{CC} = 5.25\text{V}$	—	4.4	8.8	mA
Input clamp voltage	V_{IK}	$V_{CC} = 4.75\text{V}, I_{IN} = -18\text{mA}$	—	—	-1.5	V

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

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

Item	Symbol	Test Conditions	min	typ	max	Unit
Propagation delay time	t_{PLH}	$C_L = 15\text{pF}, R_L = 2\text{k}\Omega$	—	20	35	ns
	t_{PHL}		—	17	35	ns

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

PACKAGING INFORMATION

T-90-20

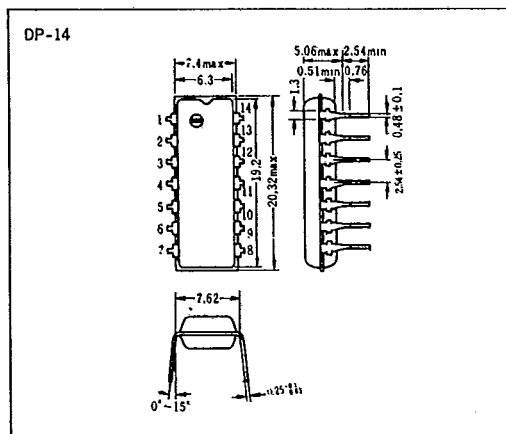
Factory orders for circuits described in this databook should include a three-part type number as explained in the following example.

HD 74LS00 P

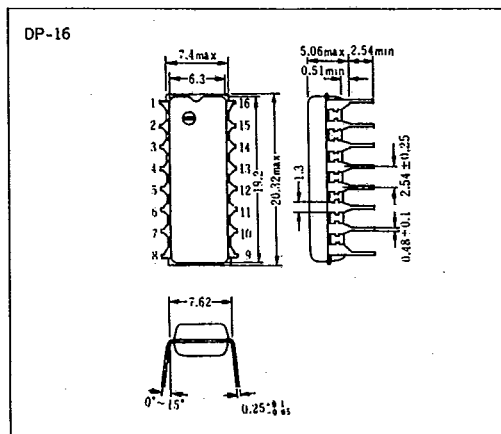
Package ; Plastic DIP ; letters P
Cerdip ; non-letters
Circuit description
Prefix : HD ; Hitachi Digital IC

■ Plastic DIP

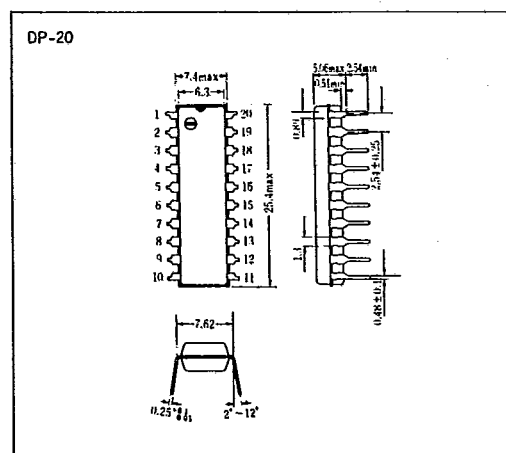
● 14 Pin



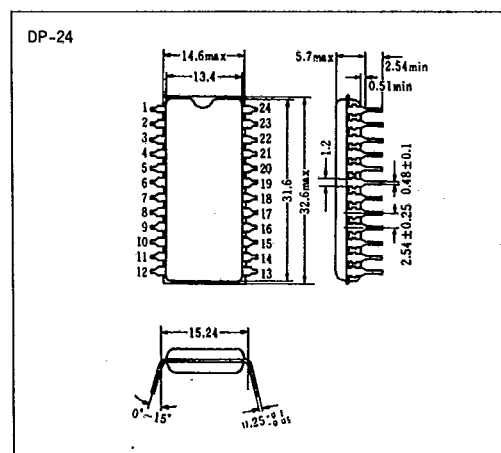
● 16 Pin



● 20 Pin



● 24 Pin



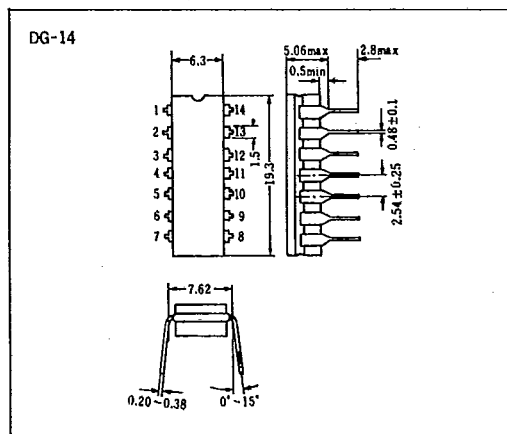
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T-90-20

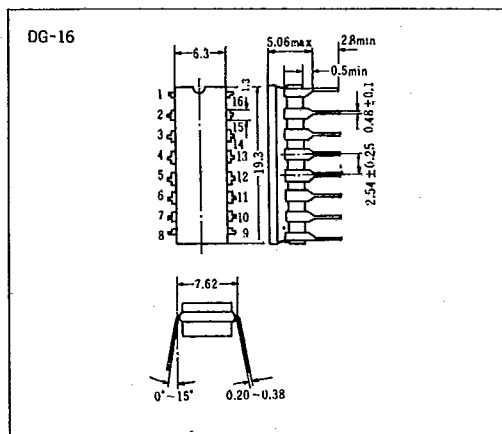
PACKAGING INFORMATION

■Cerdip

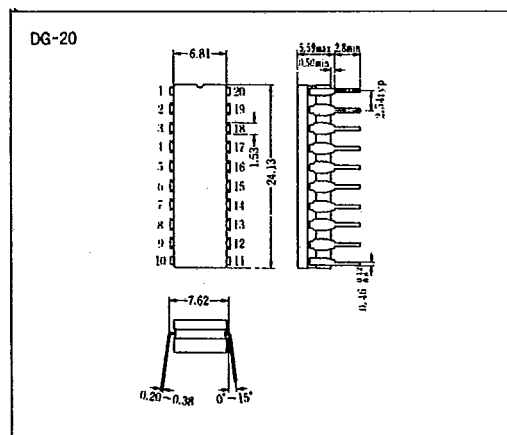
●14 Pin



●16 Pin



●20 Pin



●24 Pin

