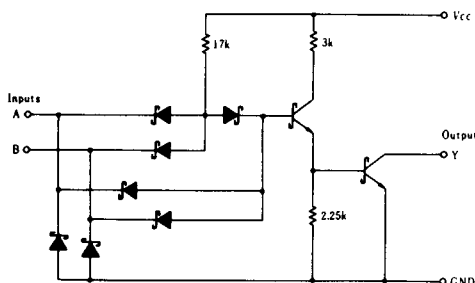
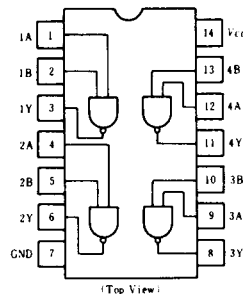


HD74LS38 • Quadruple 2-input Positive NAND Buffers (with Open Collector Outputs)

■CIRCUIT SCHEMATIC(1/4)



■PIN ARRANGEMENT



■RECOMMENDED OPERATING CONDITIONS

Item	Symbol	min	typ	max	Unit
High level output voltage	V_{OL}	—	—	5.5	V
Low level output current	I_{OL}	—	—	24	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}	$V_{CC} = 4.75\text{V}, V_I = 2\text{V}$	$I_{OL} = 24\text{mA}$	—	0.5	V
			$I_{OL} = 12\text{mA}$	—	0.4	
Output current	I_{OH}	$V_{CC} = 4.75\text{V}, V_I = 0.8\text{V}, V_{OH} = 5.5\text{V}$	—	—	250	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_{CCN}	$V_{CC} = 5.25\text{V}$	—	0.9	2.0	mA
	I_{CCL}	$V_{CC} = 5.25\text{V}$	—	6	12	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}	$C_L = 45\text{pF}, R_L = 667\Omega$	—	20	32	ns
	t_{PHL}		—	18	28	ns

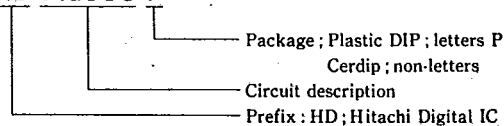
Note) Refer to Test Circuit and Waveform of the Common Item

PACKAGING INFORMATION

T-90-20

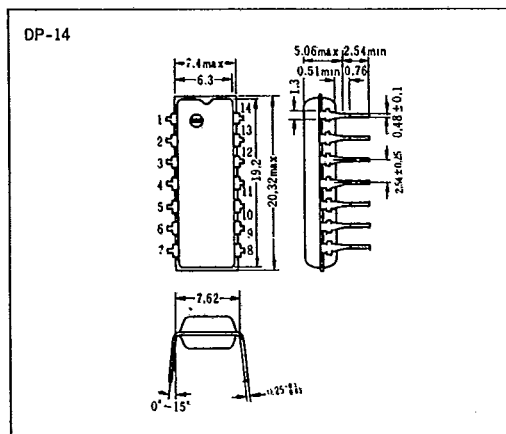
Factory orders for circuits described in this databook should include a three-part type number as explained in the following example.

HD 74LS00 P

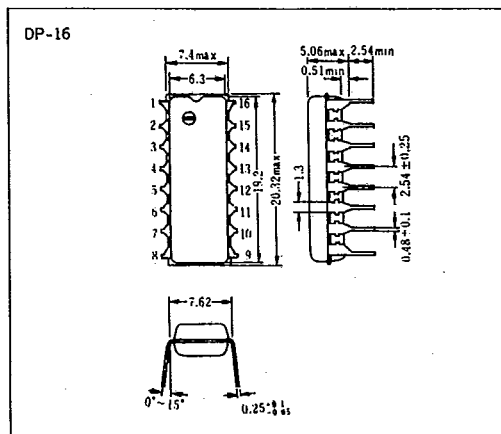


■ Plastic DIP

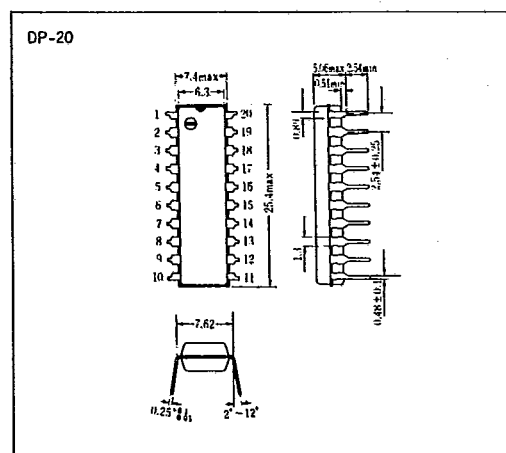
● 14 Pin



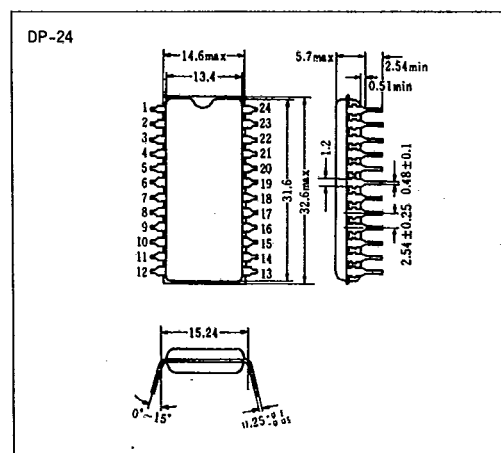
● 16 Pin



● 20 Pin



● 24 Pin



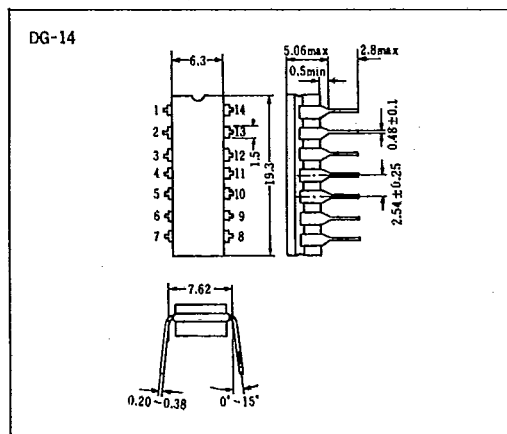
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T-90-20

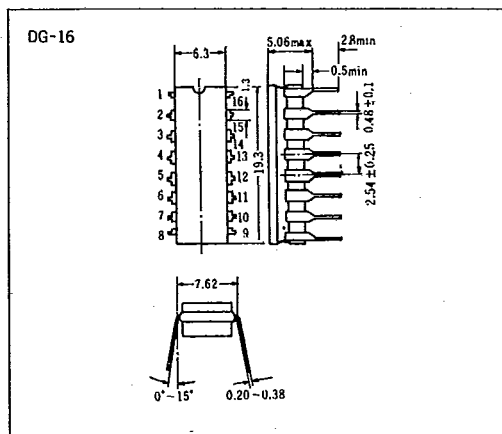
PACKAGING INFORMATION

■Cerdip

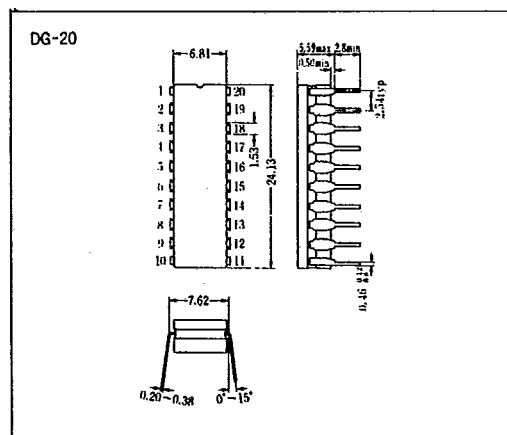
●14 Pin



●16 Pin



●20 Pin



●24 Pin

