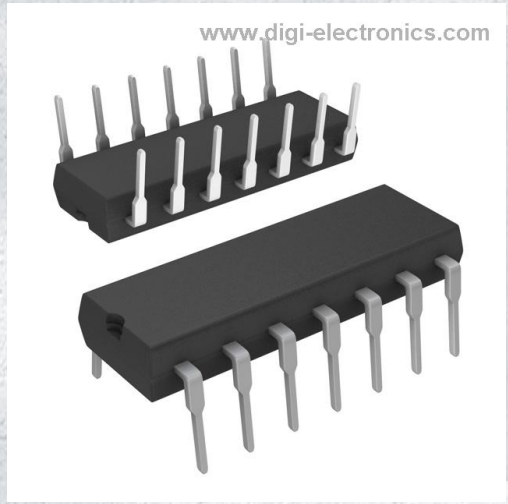
DM74S30N Datasheet



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DiGi Electronics Part Number	DM74S30N-DG
Manufacturer	onsemi
Manufacturer Product Number	DM74S30N
Description	IC GATE NAND 1CH 8-INP 14MDIP
Detailed Description	NAND Gate IC 1 Channel 14-MDIP

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
DM74S30N	onsemi
Series:	Product Status:
74S	Obsolete
Logic Type:	Number of Circuits:
NAND Gate	1
Number of Inputs:	Features:
8	-
Voltage - Supply:	Current - Output High, Low:
4.75V ~ 5.25V	1mA, 20mA
Input Logic Level - Low:	Input Logic Level - High:
0.8V	2V
Max Propagation Delay @ V, Max CL:	Operating Temperature:
10ns @ 5V, 50pF	0°C ~ 70°C
Mounting Type:	Supplier Device Package:
Through Hole	14-MDIP
Package / Case:	Base Product Number:
14-DIP (0.300", 7.62mm)	74S30

Environmental & Export classification

Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8542.39.0001

FAIRCHILD SEMICONDUCTOR™

September 1986
Revised April 2000

DM74S30
8-Input NAND Gate

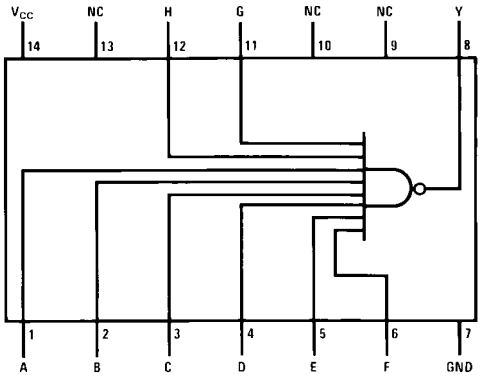
General Description

This device contains a single gate which performs the logic NAND function.

Ordering Code:

Order Number	Package Number	Package Description
DM74S30N	N14A	14-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide

Connection Diagram



Function Table

$$Y = \overline{ABCDEFGH}$$

Inputs	Output
A thru H	**Y**
All Inputs H	L
One or More Input L	H

H = HIGH Logic Level
L = LOW Logic Level

Absolute Maximum Ratings(Note 1)

Supply Voltage	7V
Input Voltage	5.5V
Operating Free Air Temperature Range	0°C to +70°C
Storage Temperature Range	−65°C to +150°C

Note 1: The "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. The device should not be operated at these limits. The parametric values defined in the Electrical Characteristics tables are not guaranteed at the absolute maximum ratings. The "Recommended Operating Conditions" table will define the conditions for actual device operation.

Recommended Operating Conditions

Symbol	Parameter	Min	Nom	Max	Units
V_{CC}	Supply Voltage	4.75	5	5.25	V
V_{IH}	HIGH Level Input Voltage	2			V
V_{IL}	LOW Level Input Voltage			0.8	V
I_{OH}	HIGH Level Output Current			−1	mA
I_{OL}	LOW Level Output Current			20	mA
T_A	Free Air Operating Temperature	0		70	°C

Electrical Characteristics

over recommended operating free air temperature (unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ (Note 2)	Max	Units
V_I	Input Clamp Voltage	V_{CC} = Min, I_I = −18 mA			−1.2	V
V_{OH}	HIGH Level Output Voltage	V_{CC} = Min, I_{OH} = Max, V_{IL} = Max	2.7	3.4		V
V_{OL}	LOW Level Output Voltage	V_{CC} = Min, I_{OL} = Max, V_{IH} = Min			0.5	V
I_I	Input Current @ Max Input Voltage	V_{CC} = Max, V_I = 5.5V			1	mA
I_{IH}	HIGH Level Input Current	V_{CC} = Max, V_I = 2.7V			50	μA
I_{IL}	LOW Level Input Current	V_{CC} = Max, V_I = 0.5V			−2	mA
I_{OS}	Short Circuit Output Current	V_{CC} = Max (Note 3)	−40		−100	mA
I_{CCH}	Supply Current with Outputs HIGH	V_{CC} = Max		3	5	mA
I_{CCL}	Supply Current with Outputs LOW	V_{CC} = Max		5.5	10	mA

Note 2: All typicals are at V_{CC} = 5V, T_A = 25°C.

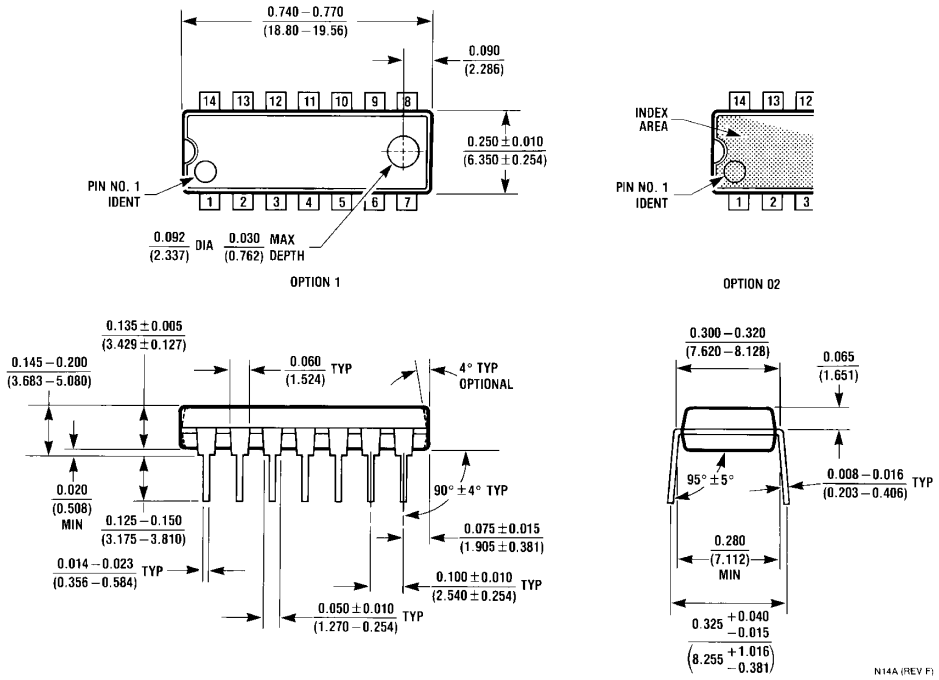
Note 3: Not more than one output should be shorted at a time, and the duration should not exceed one second.

Switching Characteristics

at V_{CC} = 5V and T_A = 25°C

Symbol	Parameter	R_L = 280Ω				Units
		C_L = 15 pF		C_L = 50 pF		
		Min	Max	Min	Max	
t_{PLH}	Propagation Delay Time LOW-to-HIGH Level Output	2	6	2	8	ns
t_{PHL}	Propagation Delay Time HIGH-to-LOW Level Output	2	7	3	10	ns

Physical Dimensions inches (millimeters) unless otherwise noted



14-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide
Package Number N14A

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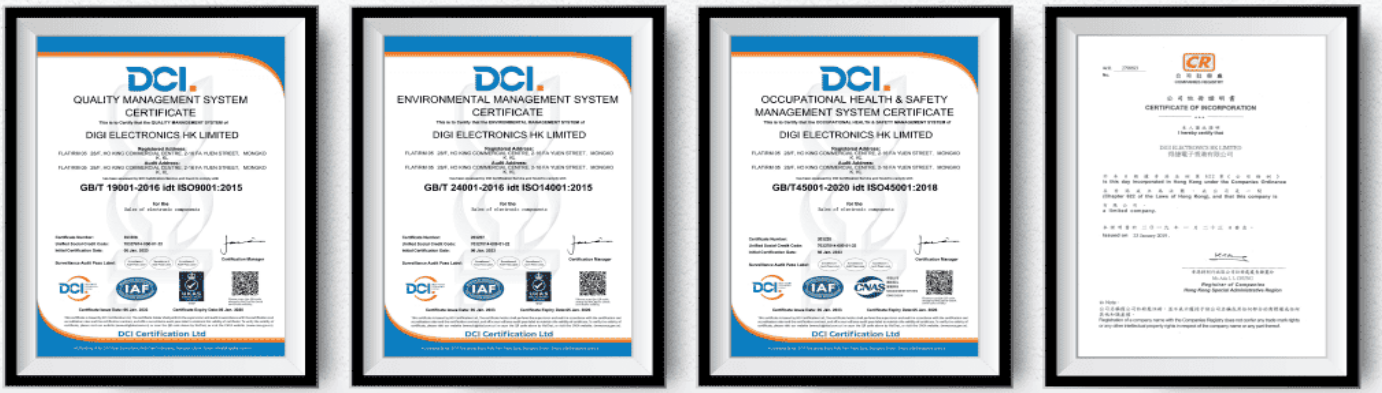

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