

DM74AS804B Hex 2-Input NAND Driver

General Description

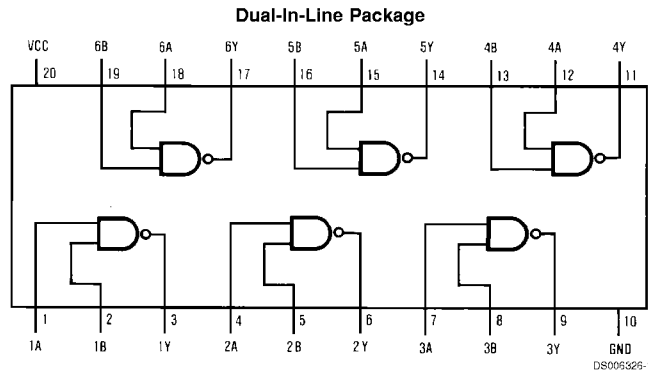
These devices contain six independent drivers, each of which performs the logic NAND function. Each driver has increased output drive capability to allow the driving of high capacitive loads.

- Switching specifications guaranteed over full temperature and V_{CC} range
- Advanced oxide-isolated, ion-implanted Schottky TTL process
- Functionally and pin for pin compatible with advanced low power Schottky TTL counterpart

Features

- Switching specifications at 50 pF

Connection Diagram



Order Number DM74AS804BWM or DM74AS804BN
See Package Number M20B or N20A

Function Table

$$Y = \overline{AB}$$

Inputs		Output
A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

H = High Logic Level
L = Low Logic Level

Absolute Maximum Ratings (Note 2)

Supply Voltage	7V
Input Voltage	7V
Operating Free Air Temperature Range	0°C to +70°C

Storage Temperature Range	-65°C to +150°C
Typical θ_{JA}	
N Package	58.3°C/W
M Package	154.0°C/W

Recommended Operating Conditions

Symbol	Parameter	Min	Nom	Max	Units
V_{CC}	Supply Voltage	4.5	5	5.5	V
V_{IH}	High Level Input Voltage	2			V
V_{IL}	Low Level Input Voltage			0.8	V
I_{OH}	High Level Output Current			-48	mA
I_{OL}	Low Level Output Current			48	mA
T_A	Free Air Operating Temperature	0		70	°C

Note 1: This product meets application requirements of 500 temperature cycles from -65°C to +150°C.

Note 2: 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" table are not guaranteed at the absolute maximum ratings. The "Recommended Operating Conditions" table will define the conditions for actual device operation.

Electrical Characteristics

over recommended operating free air temperature range. All typical values are measured at $V_{CC} = 5V$, $T_A = 25^\circ C$.

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{IK}	Input Clamp Voltage	$V_{CC} = 4.5V$, $I_I = -18\text{ mA}$			-1.2	V
V_{OH}	High Level Output Voltage	$I_{OH} = -2\text{ mA}$, $V_{CC} = 4.5V$ to $5.5V$	$V_{CC} - 2$			V
		$I_{OH} = -3\text{ mA}$, $V_{CC} = 4.5V$	2.4			
		$I_{OH} = \text{Max}$, $V_{CC} = 4.5V$	2			
V_{OL}	Low Level Output Voltage	$V_{CC} = 4.5V$, $I_{OL} = \text{Max}$ $V_{IH} = 2V$		0.35	0.5	V
I_I	Input Current @ Max Input Voltage	$V_{CC} = 5.5V$, $V_{IH} = 7V$			0.1	mA
I_{IH}	High Level Input Current	$V_{CC} = 5.5V$, $V_{IH} = 2.7V$			20	μA
I_{IL}	Low Level Input Current	$V_{CC} = 5.5V$, $V_{IL} = 0.4V$			-0.5	mA
I_O	Output Drive Current	$V_{CC} = 5.5V$, $V_O = 2.25V$	-50	-135	-200	mA
I_{CC}	Supply Current	$V_{CC} = 5.5V$	Outputs High	3.5	5	mA
		Outputs Low	16	27	mA	

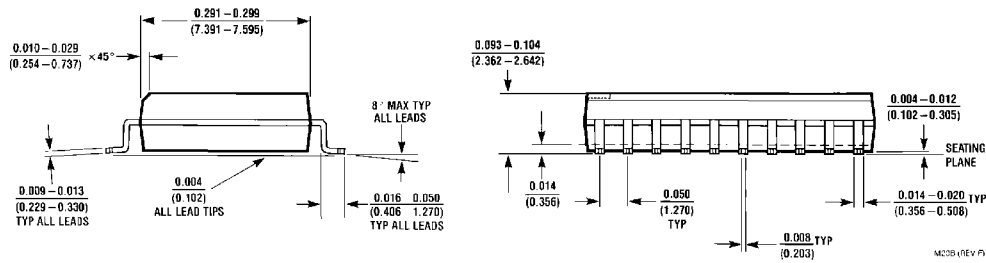
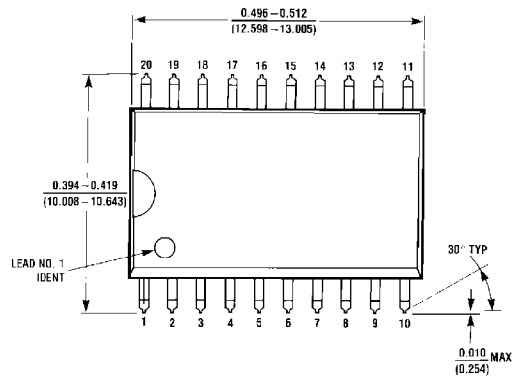
Switching Characteristics

over recommended operating free air temperature range (Note 3)

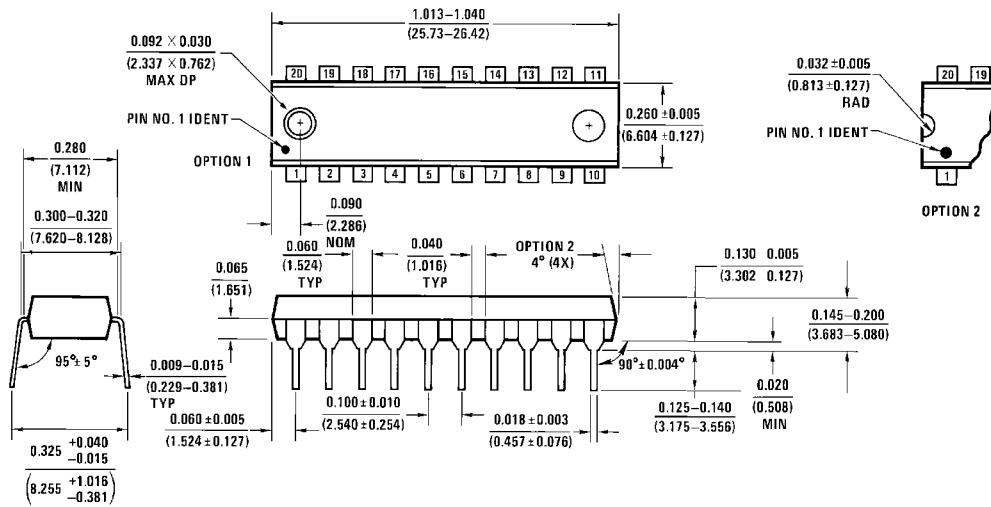
Symbol	Parameter	Conditions	Min	Max	Units
t_{PLH}	Propagation Delay Time Low to High Level Output	$V_{CC} = 4.5V$ to $5.5V$ $R_L = 500\Omega$ $C_L = 50\text{ pF}$	1	4	ns
	Propagation Delay Time High to Low Level Output		1	4	ns

Note 3: See Section 5 for test waveforms and output load.

Physical Dimensions inches (millimeters) unless otherwise noted



Small Outline Package (M)
Order Number DM74AS804BWM
Package Number M20B



Molded Dual-In-Line Package (N)
Order Number DM74AS804BN
Package Number N20A

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