

## DM74AS804B Hex 2-Input NAND Driver

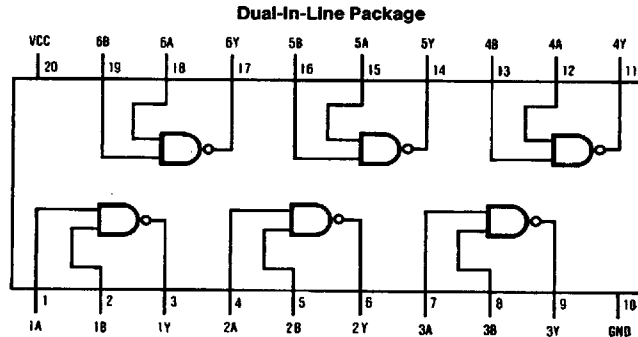
### General Description

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.

### Features

- Switching specifications at 50 pF
- 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

### Connection Diagram



TL/F/6326-1

Order Number DM74AS804BWM or DM74AS804BN  
See NS 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

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 $\theta_{JA}$	
N Package	58.3°C/W
M Package	154.0°C/W

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

Note: 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.

## Recommended Operating Conditions

Symbol	Parameter	Min	Nom	Max	Units
V <sub>CC</sub>	Supply Voltage	4.5	5	5.5	V
V <sub>IH</sub>	High Level Input Voltage	2			V
V <sub>IL</sub>	Low Level Input Voltage			0.8	V
I <sub>OH</sub>	High Level Output Current			-48	mA
I <sub>OL</sub>	Low Level Output Current			48	mA
T <sub>A</sub>	Free Air Operating Temperature	0		70	°C

## Electrical Characteristics

over recommended operating free air temperature range. All typical values are measured at V<sub>CC</sub> = 5V, T<sub>A</sub> = 25°C.

Symbol	Parameter	Conditions	Min	Typ	Max	Units	
V <sub>IK</sub>	Input Clamp Voltage	V <sub>CC</sub> = 4.5V, I <sub>I</sub> = -18 mA			-1.2	V	
V <sub>OH</sub>	High Level Output Voltage	I <sub>OH</sub> = -2 mA, V <sub>CC</sub> = 4.5V to 5.5V	V <sub>CC</sub> - 2			V	
		I <sub>OH</sub> = -3 mA, V <sub>CC</sub> = 4.5V	2.4				
		I <sub>OH</sub> = Max, V <sub>CC</sub> = 4.5V	2				
V <sub>OL</sub>	Low Level Output Voltage	V <sub>CC</sub> = 4.5V, I <sub>OL</sub> = Max V <sub>IH</sub> = 2V		0.35	0.5	V	
I <sub>I</sub>	Input Current @ Max Input Voltage	V <sub>CC</sub> = 5.5V, V <sub>IH</sub> = 7V			0.1	mA	
I <sub>IH</sub>	High Level Input Current	V <sub>CC</sub> = 5.5V, V <sub>IH</sub> = 2.7V			20	μA	
I <sub>IL</sub>	Low Level Input Current	V <sub>CC</sub> = 5.5V, V <sub>IL</sub> = 0.4V			-0.5	mA	
I <sub>O</sub>	Output Drive Current	V <sub>CC</sub> = 5.5V, V <sub>O</sub> = 2.25V	-50	-135	-200	mA	
I <sub>CC</sub>	Supply Current	V <sub>CC</sub> = 5.5V	Outputs High		3.5	5	mA
			Outputs Low		16	27	mA

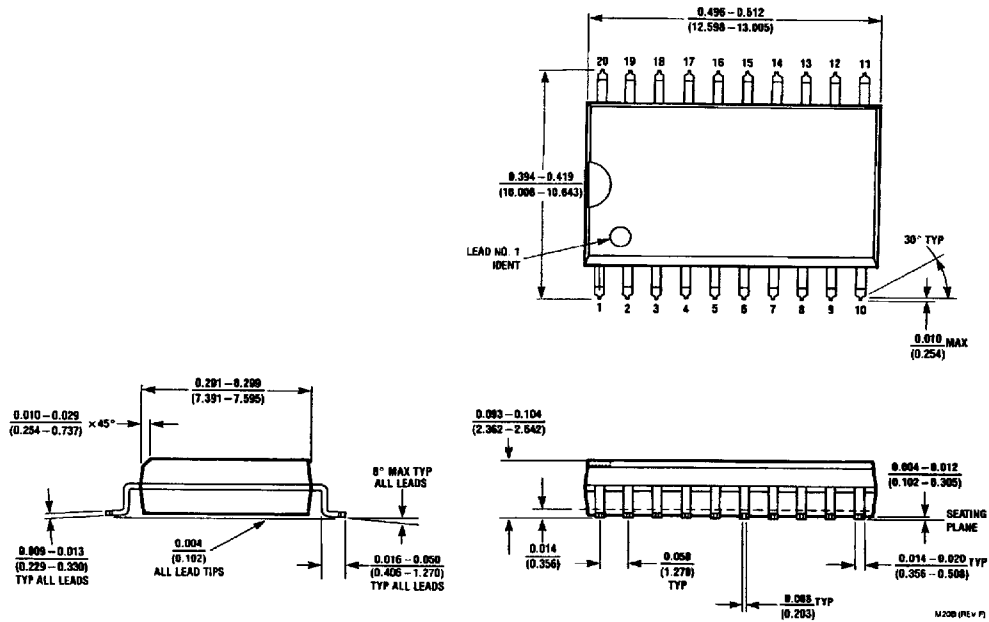
## Switching Characteristics

over recommended operating free air temperature range (Note 1)

Symbol	Parameter	Conditions	Min	Max	Units
t <sub>PLH</sub>	Propagation Delay Time Low to High Level Output	V <sub>CC</sub> = 4.5V to 5.5V R <sub>L</sub> = 500Ω C <sub>L</sub> = 50 pF	1	4	ns
t <sub>PHL</sub>	Propagation Delay Time High to Low Level Output		1	4	ns

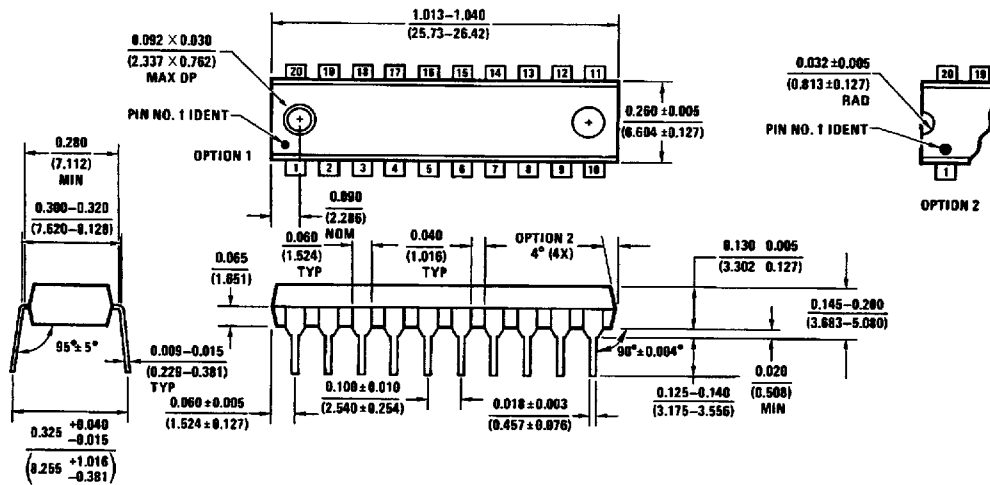
Note 1: See Section 5 for test waveforms and output load.

**Physical Dimensions** inches (millimeters)



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

**Physical Dimensions** inches (millimeters) (Continued)



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

N20A (REV G)

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