

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

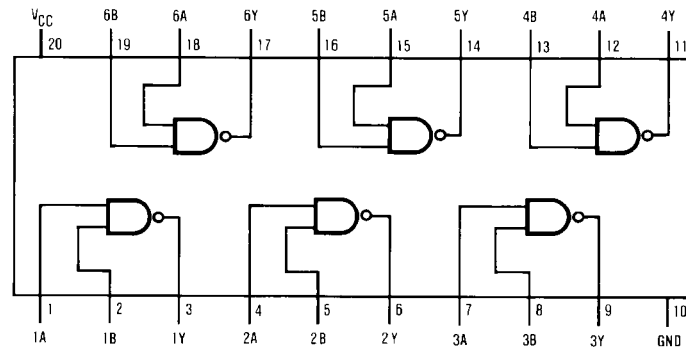
- Switching specifications at 50 pF
- Switching specifications guaranteed over full temperature and V_{CC} range
- Advanced oxide-isolated, ion-implanted Schottky TTL process
- Functionally and pin for pin compatible with advanced low power Schottky TTL counterpart

Ordering Code:

Order Number	Package Number	Package Description
DM74AS804BWM	M20B	20-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-013, 0.300 Wide
DM74AS804BN	N20A	20-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide

Devices also available in Tape and Reel. Specify by appending the suffix letter "X" to the ordering code.

Connection Diagram



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

DM74AS804B Hex 2-Input NAND Driver

Absolute Maximum Ratings(Note 1)

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

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	4.5	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

Electrical Characteristics

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

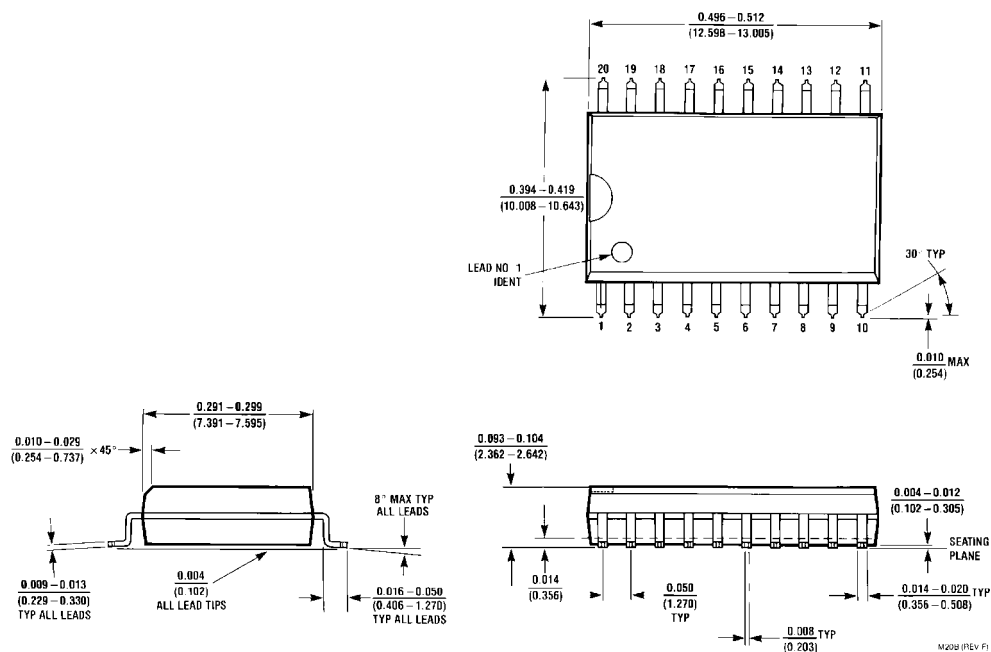
Symbol	Parameter	Conditions	Min	Typ	Max	Units
V_{IK}	Input Clamp Voltage	$V_{CC} = 4.5V$, $I_I = -18\text{ mA}$			–1.2	V
V_{OH}	HIGH Level Output Voltage	$I_{OH} = -2\text{ mA}$, $V_{CC} = 4.5V$ to $5.5V$	$V_{CC} - 2$			V
		$I_{OH} = -3\text{ mA}$, $V_{CC} = 4.5V$	2.4			
		$I_{OH} = \text{Max}$, $V_{CC} = 4.5V$	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

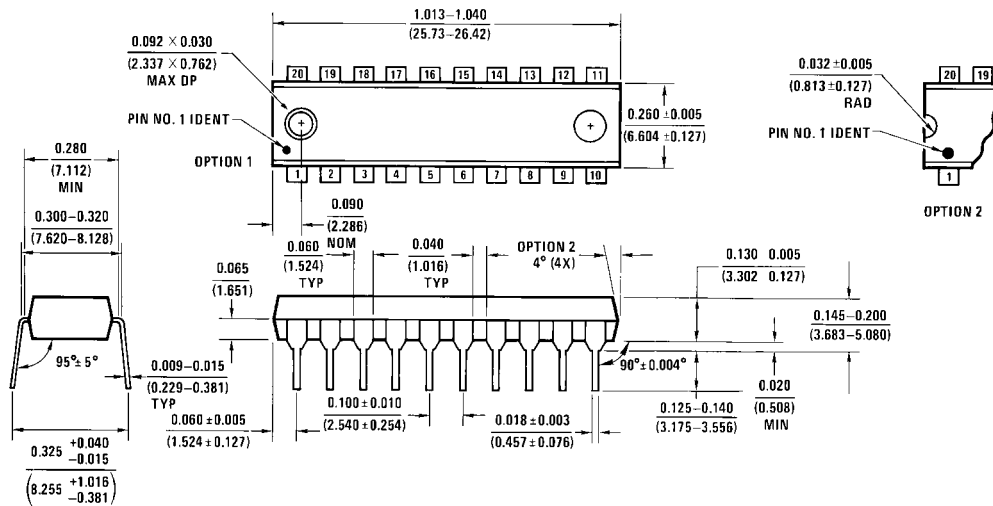
Symbol	Parameter	Conditions	Min	Max	Units
t_{PLH}	Propagation Delay Time LOW-to-HIGH Level Output	$V_{CC} = 4.5V$ to $5.5V$ $R_L = 500\Omega$ $C_L = 50\text{ pF}$	1	4	ns
	Propagation Delay Time HIGH-to-LOW Level Output		1	4	ns

Physical Dimensions inches (millimeters) unless otherwise noted



**20-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-013, 0.300 Wide
Package Number M20B**

Physical Dimensions inches (millimeters) unless otherwise noted (Continued)



N20A (REV G)

20-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide
Package Number N20A

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