

## DM74AS1805 Hex 2-Input NOR Driver

### General Description

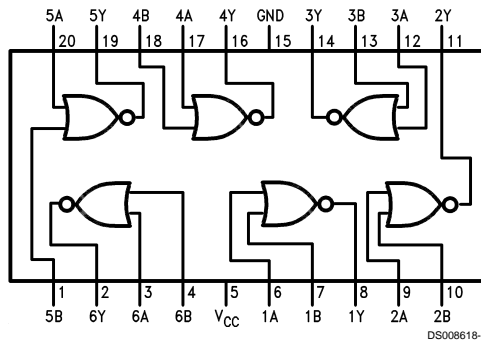
These devices contain six independent 2-Input drivers each of which performs the logic NOR function. The 'AS1805 is equivalent to the 'AS805B but the supply voltage and ground pins are centered in the package. This positioning of the supply voltage and ground pins reduce the lead inductance of these pins. This reduction of lead inductance will minimize noise generated onto either the supply voltage or ground bus which is significant in high current switching applications.

- Switching specifications guaranteed over full temperature and  $V_{CC}$  range
- Advanced oxide-isolated, ion-implanted Schottky TTL process
- Centered  $V_{CC}$  and GND configuration provides minimum lead inductance for high current switching applications
- High capacitive drive capability

### Features

- Switching specifications at 50 pF

### Connection Diagram



Order Number DM74AS1805WM or DM74AS1805N  
See Package Number M20B or N20A

### Function Table

$$Y = \overline{A + B}$$

INPUTS		OUTPUT
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	L

## Absolute Maximum Ratings (Note 1)

Supply Voltage	7V
Input Voltage	7V
Operating Free Air Temperature	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

## 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
$T_A$	Operating Free Air Temperature Range	0		70	°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" 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

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	$I_{OH} = -2\text{ mA}, V_{CC} = 4.5V\text{ to }5.5V$	$V_{CC} - 2$			V
		$I_{OH} = -3\text{ mA}, V_{CC} = 4.5V$	2.4	3.2		
		$I_{OH} = \text{Max}, V_{CC} = 4.5V$	2			
$V_{OL}$	Low Level Output Voltage	$V_{CC} = 4.5V, I_{OL} = \text{Max}, V_{IH} = 2V$			0.5	V
$I_I$	Input Current at Maximum Input Voltage	$V_{CC} = 5.5V, V_I = 7V$			100	$\mu\text{A}$
$I_{IH}$	High Level Input Current	$V_{CC} = 5.5V, V_I = 2.7V$			20	$\mu\text{A}$
$I_{IL}$	Low Level Input Current	$V_{CC} = 5.5V, V_I = 0.4V$			-500	$\mu\text{A}$
$I_O$	Output Drive Current	$V_{CC} = 5.5V, V_O = 2.25V$	-50	-135	-200	mA
$I_{CCH}$	Supply Current with Outputs High	$V_{CC} = 5.5V$		6.5	10	mA
$I_{CCL}$	Supply Current with Outputs Low	$V_{CC} = 5.5V$		20	32	mA

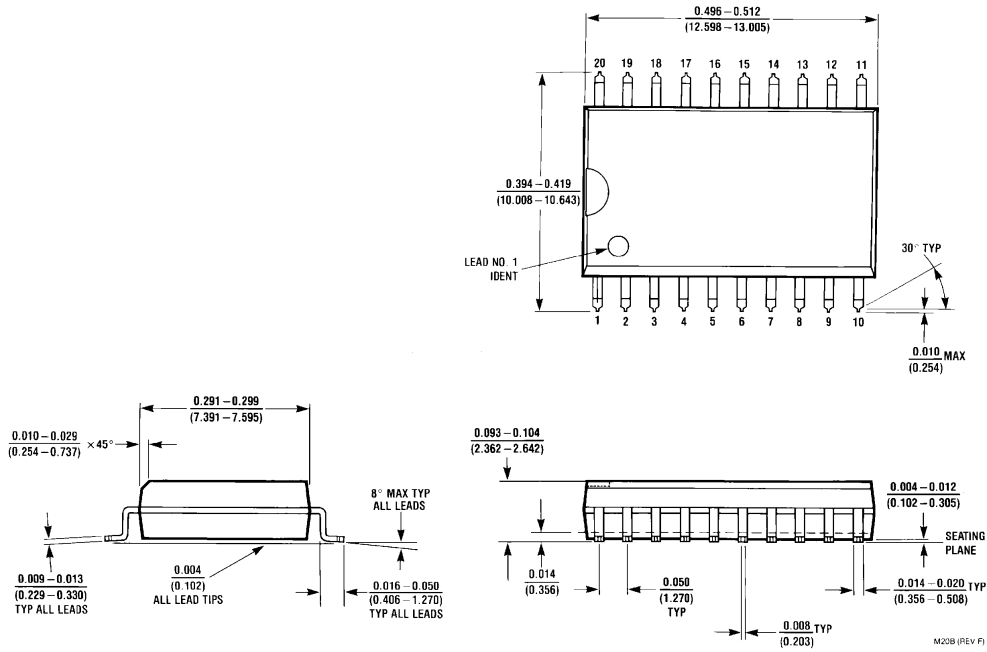
## Switching Characteristics

over recommended operating free air temperature range (Note 2)

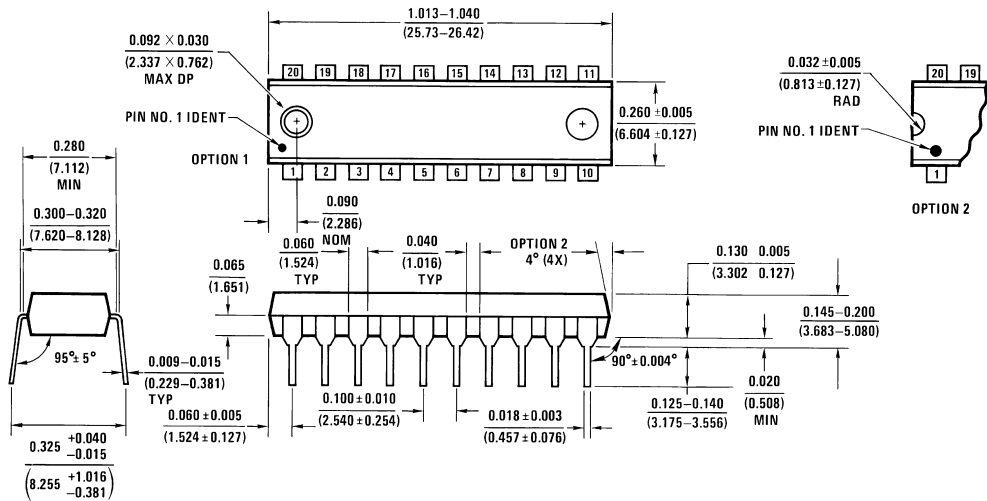
Symbol	Parameter	Conditions (Note 1)	Min	Max	Units
$T_{PLH}$	Propagation Delay Time Low to High Level Output	$V_{CC} = 4.5V\text{ to }5.5V$	1	4.3	ns
$T_{PHL}$	Propagation Delay Time High to Low Level Output	$R_L = 500\Omega$ $C_L = 50\text{ pF}$	1	4.3	ns

**Note 2:** See Section 5 for test waveforms and output load.

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



Lit. # 102707



**Molded Dual-In-Line Package (N)**  
**Order Number DM74AS1805N**  
**Package Number N20A**

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