

Absolute Maximum Ratings(Note 1)

Supply Voltage	7V
Input Voltage;	
Control Inputs	7V
I/O Ports	5.5V
Operating Free Air Temperature Range	0°C to +70°C
Storage Temperature Range	-65°C to +150°C
Typical θ_{JA}	
N Package	53.0°C/W
M Package	72.0°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	Typ	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			-15	mA
I_{OL}	LOW Level Output Current			24	mA
T_A	Operating Free Air Temperature Range	0		70	°C

Electrical Characteristics

Over Recommended Free Air Temperature Range

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units		
V_{IC}	Input Clamp Voltage	$V_{CC} = \text{Min}, I_I = -18 \text{ mA}$			-1.5	V		
V_{OH}	HIGH Level Output Voltage	$V_{CC} = 4.5 \text{ to } 5.5 \text{ V}$	$I_{OH} = -0.4 \text{ mA}$	$V_{CC} - 2$		V		
		$V_{CC} = \text{Max}$	$I_{OH} = -3 \text{ mA}$	2.4	3.2			
			$I_{OH} = \text{Max}$	2				
V_{OL}	LOW Level Output Voltage	$V_{CC} = \text{Min}$	$I_{OL} = 12 \text{ mA}$		0.25	0.4	V	
			$I_{OL} = 24 \text{ mA}$			0.35		0.5
I_I	Input Current at Maximum Input Voltage	$V_{CC} = \text{Max}$				100	μA	
			I/O Ports, $V_I = 5.5 \text{ V}$			100		
I_{IH}	HIGH Level Input Current	$V_{CC} = \text{Max}, V_I = 2.7 \text{ V}$ (Note 2)				20	μA	
I_{IL}	LOW Level Input Current	$V_{CC} = \text{Max}, V_I = 0.4 \text{ V}$ (Note 2)				-100	μA	
I_O	Output Drive Current	$V_{CC} = \text{Max}, V_O = 2.25 \text{ V}$				-30	-112	mA
I_{CC}	Supply Current	$V_{CC} = \text{Max}$	Outputs HIGH		30	45	mA	
			Outputs LOW		36	55		
			Outputs Disabled		38	58		

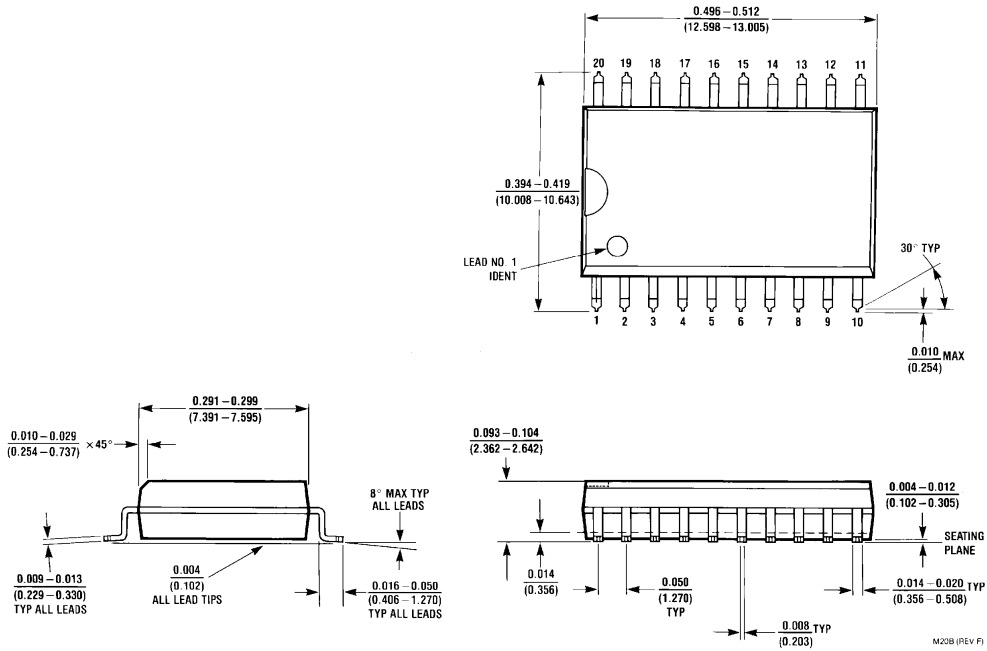
Note 2: For I/O ports, I_{IH} and I_{IL} parameters include the 3-STATE output current (I_{OZH} and I_{OZH}).

Switching Characteristics

Over Recommended Operating Free Air Temperature Range

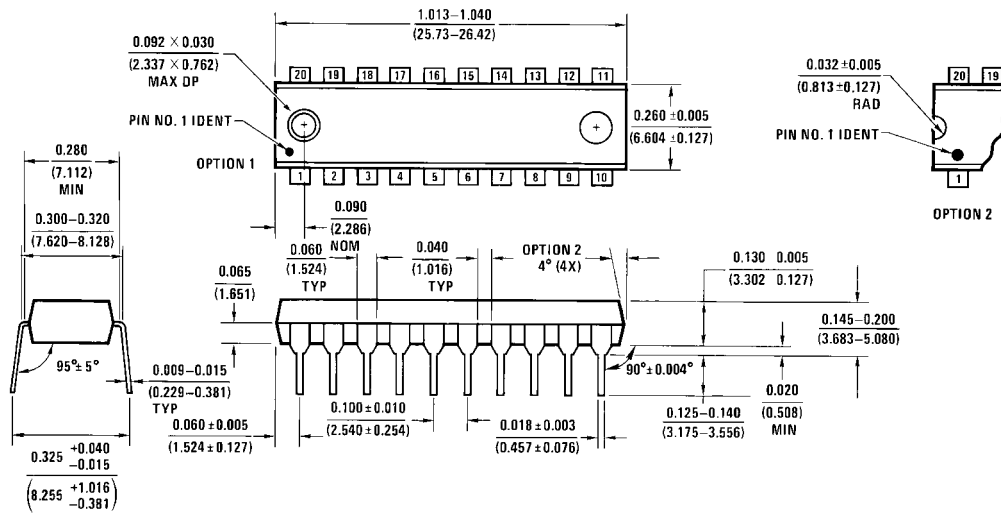
Symbol	Parameter	From (Input)	To (Output)	Conditions	Min	Max	Units
t_{PLH}	Propagation Delay Time LOW-to-HIGH Level Output	A or B	B or A	$V_{CC} = 4.5 \text{ to } 5.5 \text{ V},$ $C_L = 50 \text{ pF},$ $R_1 = R_2 = 500\Omega$	3	10	ns
t_{PHL}	Propagation Delay Time HIGH-to-LOW Level Output	A or B	B or A				
t_{PZH}	Output Enable Time to HIGH Level Output	\bar{G}	A or B		5	20	ns
t_{PZL}	Output Enable Time to LOW Level Output	\bar{G}	A or B		5	20	ns
t_{PHZ}	Output Disable Time from HIGH Level Output	\bar{G}	A or B		2	10	ns
t_{PLZ}	Output Disable Time from LOW Level Output	\bar{G}	A or B		4	15	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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