

DM80L06 Quad 2-Input NAND Gates with Resistive Pull Up

General Description

These quad two-input NAND gates feature internally connected, 20 k Ω pull-up resistors on the outputs. The pinout is the same as the very popular DM54L03/DM74L03, and these devices provide the same "one-tenth-power technology" as well.

Features

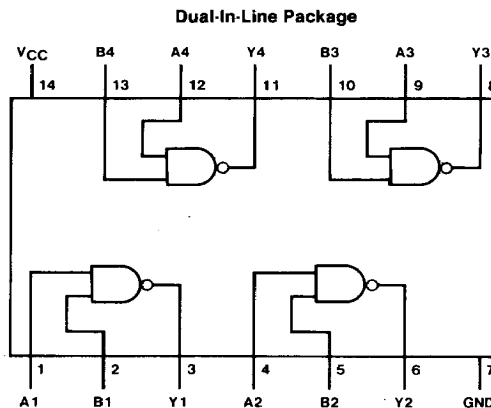
- Typical power dissipation 12 mW
- Typical propagation delay 115 ns

Absolute Maximum Ratings (Note 1)

Supply Voltage	8V
Input Voltage	5.5V
Storage Temperature Range	- 65 °C to 150 °C

Note 1: The "Absolute Maximum Ratings" are those values beyond which the safety of the device can not 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.

Connection Diagram



DM80L06 (N)

TL/F/6644-1

$$Y = \overline{AB}$$

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

Recommended Operating Conditions

Sym	Parameter	DM80L06			Units
		Min	Nom	Max	
V _{CC}	Supply Voltage	4.75	5	5.25	V
V _{IH}	High Level Input Voltage	2			V
V _{IL}	Low Level Input Voltage			0.7	V
I _{OH}	High Level Output Current			-0.2	mA
I _{OL}	Low Level Output Current			3.6	mA
T _A	Free Air Operating Temperature	0		70	°C

Electrical Characteristics over recommended operating free air temperature (unless otherwise noted)

Sym	Parameter	Conditions	Min	Typ (Note 1)	Max	Units
V _{OH}	High Level Output Voltage	V _{CC} = Min I _{OH} = Max V _{IL} = Max	2	2.5		V
V _{OL}	Low Level Output Voltage	V _{CC} = Min I _{OL} = Max V _{IH} = Min			0.4	V
I _I	Input Current @ Max Input Voltage	V _{CC} = Max, V _I = 5.5V			0.1	mA
I _{IH}	High Level Input Current	V _{CC} = Max, V _I = 2.4V			10	μA
I _{IL}	Low Level Input Current	V _{CC} = Max, V _I = 0.3V		-0.12	-0.18	mA
I _{OS}	Short Circuit Output Current	V _{CC} = Max	-0.17	-0.25	-0.33	mA
I _{CCH}	Supply Current With Outputs High	V _{CC} = Max		0.48	0.8	mA
I _{CCL}	Supply Current With Outputs Low	V _{CC} = Max		2.4	3.68	mA

Switching Characteristics at V_{CC} = 5V and T_A = 25°C (See Section 1 for Test Waveforms and Output Load)

Parameter	R _L = 4 kΩ C _L = 15 pF			Units
	Min	Typ	Max	
t _{PLH} Propagation Delay Time Low to High Level Output		193	290	ns
t _{PHL} Propagation Delay Time High to Low Level Output		37	56	ns

Note 1: All typicals are at V_{CC} = 5V, T_A = 25°C.