Dual 5-Input NAND Gates

General Description

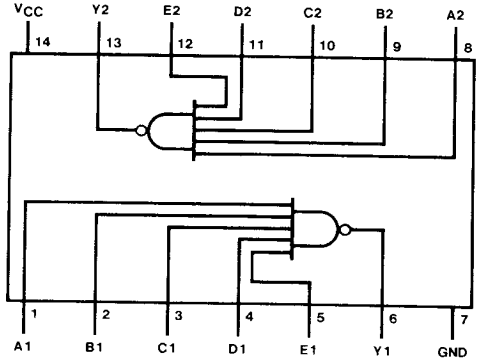
DM7092/DM8092

These devices provide two, 5-input NAND gates in the same package. Their primary advantage is that they fill a product void in the popular DM5400/DM7400 family. The electrical specifications are completely compatible with the series 54/74 devices.

Features

- Typical propagation delay 11 ns
- Typical power dissipation 35 mW

Connection Diagrams



7092 (J,W); 8092 (N)

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

Parameter		Conditions	DM70/80 92			Units
			Min	Typ (1)	Max	
V_{IH}	High Level Input Voltage		2			V
V_{IL}	Low Level Input Voltage				0.8	V
V_I	Input Clamp Voltage	V_{CC} = Min, I_I = −12 mA, T_A = 25°C			−1.5	V
I_{OH}	High Level Output Current				−400	μA
V_{OH}	High Level Output Voltage	V_{CC} = Min, V_{IL} = 0.8 V, I_{OH} = Max	2.4			V
I_{OL}	Low Level Output Current				16	mA
V_{OL}	Low Level Output Voltage	V_{CC} = Min, V_{IH} = 2.0 V, I_{OL} = Max			0.4	V
I_I	Input Current at Maximum Input Voltage	V_{CC} = Max, V_I = 5.5 V			1	mA
I_{IH}	High Level Input Current	V_{CC} = Max, V_I = 2.4 V			40	μA
I_{IL}	Low Level Input Current	V_{CC} = Max, V_I = 0.4 V			−1.6	mA
I_{OS}	Short Circuit Output Current	V_{CC} = Max (2)	−18		−55	mA
I_{CCH}	Supply Current (Total with Outputs High)	VCC = Max, V_I = 0			3.6	mA
I_{CCL}	Supply Current (Total with Outputs Low)	V_{CC} = Max, V_I = 5.0 V			10.2	mA

Note 1: All typical values are at V_{CC} = 5 V, T_A = 25°C.
Note 2: Not more than one output should be shorted at a time.

Switching Characteristics V_{CC} = 5 V, T_A = 25°C

Parameter		From	To	Conditions	DM70/80 92			Units
					Min	Typ	Max	
t_{PLH}	Propagation Delay Time, Low-to-High Level Output	Input	Output	C_L = 15 pF, R_L = 400 Ω		13	25	ns
t_{PHL}	Propagation Delay Time, High-to-Low Level Output	Input	Output			8	15	ns

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