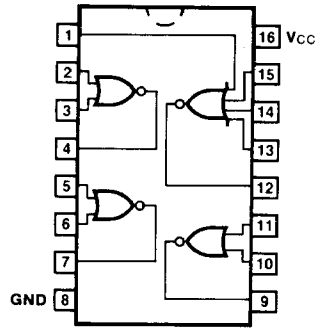
9015

QUAD NOR GATE

DESCRIPTION — The 9015 consists of three 2-input and one 4-input NOR gates. The NOR gate produces a LOW output if any of the inputs are HIGH.

CONNECTION DIAGRAM
PINOUT A



ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V_{CC} = +5.0 V ±5%, T_A = 0°C to +75°C	V_{CC} = +5.0 V ±10%, T_A = -55°C to +125°C	
Ceramic DIP (D)	A	9015DC	9015DM	6B
Flatpak (F)	A	9015FC	9015FM	4L

INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

PINS	9XXX (U.L.) HIGH/LOW
Inputs	1.5/1.0
Outputs	30/8.8 (33)/(8.5)

DC AND AC CHARACTERISTICS OVER COMMERCIAL TEMPERATURE RANGE: V_{CC} = +5.0 V ±5%

SYMBOL	PARAMETER	0°C Min	0°C Max	25°C Min	25°C Max	75°C Min	75°C Max	UNITS	CONDITIONS
V_{IH}	Input HIGH Voltage	1.9		1.8		1.6		V	Guaranteed Input HIGH Threshold
V_{IL}	Input LOW Voltage		0.85		0.85		0.85	V	Guaranteed Input LOW Threshold
V_{OH}	Output HIGH Voltage	2.4		2.4		2.4		V	V_{CC} = 4.75 V, I_{OH} = -1.2 mA, Inputs = V_{IL}
V_{OL}	Output LOW Voltage		0.45		0.45		0.45	V	V_{CC} = 5.25 V, I_{OL} = 16 mA, Inputs = 5.25 V
			0.45		0.45		0.45		V_{CC} = 4.75 V, I_{OL} = 14.1 mA, Inputs = V_{IH}

DC AND AC CHARACTERISTICS OVER COMMERCIAL TEMPERATURE RANGE (Cont'd)

SYBMOL	PARAMETER		0°C Min	0°C Max	25°C Min	25°C Max	75°C Min	75°C Max	UNITS	CONDITIONS
I_{IL}	Input LOW Current			-1.6		-1.6		-1.6	mA	V_{CC} = 5.25 V, V_{IN} = .45 V 5.25 V on Other Inputs
				-1.41		-1.41		-1.41	mA	V_{CC} = 4.75 V, V_{IN} = .45 V 5.25 V on Other Inputs
I_{CC}	Power Supply Current, each gate	ON		6.55		6.55		6.55	mA	Inputs HIGH
				8.75		8.75		8.75		Inputs HIGH (4-Input Gate Only)
		OFF		3.38		3.38		3.38	mA	Inputs LOW
				6.77		6.77		6.77		Inputs LOW (4-Input Gate Only)
t_{PLH} t_{PHL}	Propagation Delay				3.0 3.0	13 15			ns	C_L = 15 pF Fig. 3-4

DC AND AC CHARACTERISTICS OVER MILITARY TEMPERATURE RANGE: V_{CC} = +5.0 V ±10%

SYMBOL	PARAMETER		-55° Min	-55° Max	25°C Min	25°C Max	125°C Min	125°C Max	UNITS	CONDITIONS
V_{IH}	Input HIGH Voltage		2.0		1.7		1.4		V	Guaranteed Input HIGH Threshold
V_{IL}	Input LOW Voltage			0.8		0.9		0.8	V	Guaranteed Input LOW Threshold
V_{OH}	Output HIGH Voltage		2.4		2.4		2.4		V	V_{CC} = 4.5 V, I_{OH} = -1.32 mA, Inputs = V_{IL}
V_{OL}	Output LOW Voltage			0.4		0.4		0.4	V	V_{CC} = 5.5 V, Inputs = 5.5 V, I_{OL} = 17.6 mA
				0.4		0.4		0.4		V_{CC} = 4.5 V, V_{IN} = V_{IH}, I_{OL} = 13.6 mA
I_{IL}	Input LOW Current			-1.6		-1.6		-1.6	mA	V_{CC} = 5.5 V, V_{IN} = 0.4 V 5.5 V on Other Inputs
				-1.24		-1.24		-1.24	mA	V_{CC} = 4.5 V V_{IN} = 0.4 V 5.5 V on Other Inputs
I_{CC}	Power Supply Current, each gate	ON		6.07		6.07		6.07	mA	Inputs HIGH
				8.14		8.14		8.14		Inputs HIGH (4-Input Gate Only)
		OFF		3.2		3.2		3.2	mA	Inputs LOW
				6.4		6.4		6.4		Inputs LOW (4-Input Gate Only)
t_{PLH} t_{PHL}	Propagation Delay				3.0 3.0	10 12			ns	C_L = 15 pF Fig. 3-4

5

littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.