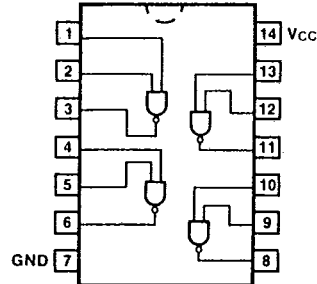


T-43-15

**54/7438**  
**54LS/74LS38**

**QUAD 2-INPUT NAND BUFFER**  
(With Open-Collector Output)

**CONNECTION DIAGRAM**  
PINOUT A



**ORDERING CODE:** See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V <sub>CC</sub> = +5.0 V ±5%, T <sub>A</sub> = 0° C to +70° C	V <sub>CC</sub> = +5.0 V ±10%, T <sub>A</sub> = -55° C to +125° C	
Plastic DIP (P)	A	7438PC, 74LS38PC		9A
Ceramic DIP (D)	A	7438DC, 74LS38DC	5438DM, 54LS38DM	6A
Flatpak (F)	A	7438FC, 74LS38FC	5438FM, 54LS38FM	3I

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

PINS	54/74 (U.L.) HIGH/LOW	54/74LS (U.L.) HIGH/LOW
Inputs	1.0/1.0	0.5/0.25
Outputs	OC**/30	OC**/15 (7.5)

**DC AND AC CHARACTERISTICS:** See Section 3\*

SYMBOL	PARAMETER	54/74		54/74LS		UNITS	CONDITIONS
		Min	Max	Min	Max		
V <sub>OL</sub>	Output LOW Voltage	0.4				V	V <sub>IN</sub> = 2.0 V, V <sub>CC</sub> = Min, I <sub>OL</sub> = 48 mA
I <sub>OH</sub>	Output HIGH Current			250		μA	V <sub>OH</sub> = 5.5 V, V <sub>CC</sub> = Min, V <sub>IN</sub> = V <sub>IL</sub>
I <sub>CCH</sub>	Power Supply Current	8.5		2.0		mA	V <sub>IN</sub> = Gnd
I <sub>CCL</sub>		54		12			V <sub>IN</sub> = Open
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay	22 18		22 22		ns	Figs. 3-2, 3-4

\*DC limits apply over operating temperature range; AC limits apply at T<sub>A</sub> = +25° C and V<sub>CC</sub> = +5.0 V.  
\*\*OC — Open Collector