

Table 3-12 Typical manufacturer's data sheet for the 74LS00.

RECOMMENDED OPERATING CONDITIONS								
Parameter	Description	SN54LS00			SN74LS00			Unit
		Min.	Nom.	Max.	Min.	Nom.	Max.	
V_{CC}	Supply voltage	4.5	5.0	5.5	4.75	5.0	5.25	V
V_{IH}	High-level input voltage	2.0			2.0			V
V_{IL}	Low-level input voltage			0.7			0.8	V
I_{OH}	High-level output current			-0.4			-0.4	mA
I_{OL}	Low-level output current			4			4	mA
T_A	Operating free-air temperature	-55		125	0		70	°C
ELECTRICAL CHARACTERISTICS OVER RECOMMENDED FREE-AIR TEMPERATURE RANGE								
Parameter	Test Conditions ⁽¹⁾	SN54LS00			SN74LS00			Unit
		Min.	Typ. ⁽²⁾	Max.	Min.	Typ. ⁽²⁾	Max.	
V_{IK}	$V_{CC} = \text{Min.}, I_N = -18 \text{ mA}$			-1.5			-1.5	V
V_{OH}	$V_{CC} = \text{Min.}, V_{IL} = \text{Max.}, I_{OH} = -0.4 \text{ mA}$	2.5	3.4		2.7	3.4		V
V_{OL}	$V_{CC} = \text{Min.}, V_{IH} = 2.0 \text{ V}, I_{OL} = 4 \text{ mA}$		0.25	0.4		0.25	0.4	V
	$V_{CC} = \text{Min.}, V_{IH} = 2.0 \text{ V}, I_{OL} = 8 \text{ mA}$					0.35		
I_I	$V_{CC} = \text{Max.}, V_I = 7.0 \text{ V}$			0.1			0.1	mA
I_{IH}	$V_{CC} = \text{Max.}, V_I = 2.7 \text{ V}$			20			20	μA
I_{IL}	$V_{CC} = \text{Max.}, V_I = 0.4 \text{ V}$			-0.4			-0.4	mA
$I_{IOS}^{(3)}$	$V_{CC} = \text{Max.}$	-20		-100	-20		-100	mA
I_{CCH}	$V_{CC} = \text{Max.}, V_I = 0 \text{ V}$		0.8	1.6		0.8	1.6	mA
I_{CCL}	$V_{CC} = \text{Max.}, V_I = 4.5 \text{ V}$		2.4	4.4		2.4	4.4	mA
SWITCHING CHARACTERISTICS, $V_{CC} = 5.0 \text{ V}, T_A = 25^\circ\text{C}$								
Parameter	From (Input)	To (Output)	Test Conditions		Min.	Typ.	Max.	Unit
t_{PLH}	A or B	Y	$R_L = 2 \text{ k}\Omega, C_L = 15 \text{ pF}$			9	15	ns
t_{PHL}						10	15	

NOTES:

1. For conditions shown as Max. or Min., use appropriate value specified under Recommended Operating Conditions.
2. All typical values are at $V_{CC} = 5.0 \text{ V}, T_A = 25^\circ\text{C}$.
3. Not more than one output should be shorted at a time; duration of short-circuit should not exceed one second.