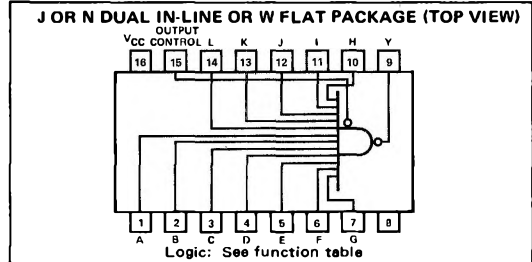


#### FUNCTION TABLE

INPUTS												OUTPUT CONTROL	OUTPUT Y
A	B	C	D	E	F	G	H	I	J	K	L		
H	H	H	H	H	H	H	H	H	H	H	H	L	L
ANY NUMBER OF INPUTS LOW												L	H
X	X	X	X	X	X	X	X	X	X	X	X	H	Z

H = high logic level, L = low logic level, X = irrelevant  
Z = high-impedance (output off)

#### PIN CONFIGURATION



#### RECOMMENDED OPERATING CONDITIONS

	S54S134			N74S134			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply voltage, $V_{CC}$	4.5	5	5.5	4.75	5	5.25	V
Normalized fan-out from each output, N	High logic level			40			130
	Low logic level			10			10
Operating free-air temperature, $T_A$	-55			125			0
				70			$^{\circ}C$

#### ELECTRICAL CHARACTERISTICS over recommended operating free-air temperature range unless otherwise noted)

PARAMETER	TEST CONDITIONS*	S54S134		N74S134		UNIT	
		MIN	TYP** MAX	MIN	TYP** MAX		
$V_{IH}$ High-level input voltage		2		2		V	
$V_{IL}$ Low-level input voltage			0.8		0.8	V	
$V_I$ Input clamp voltage	$V_{CC} = \text{MIN}, I_I = -18 \text{ mA}$		-1.2		-1.2	V	
$V_{OH}$ High-level output voltage	$V_{CC} = \text{MIN}, V_{IL} = 0.8 \text{ V}, I_{OH} = -2 \text{ mA}$	2.4	3.4			V	
	$V_{CC} = \text{MIN}, V_{IL} = 0.8 \text{ V}, I_{OH} = -6.5 \text{ mA}$			2.4	3.2	V	
$V_{OL}$ Low-level output voltage	$V_{CC} = \text{MIN}, V_{IH} = 2 \text{ V}, I_{OL} = 20 \text{ mA}$		0.5		0.5	V	
$I_{O(\text{off})}$ Off-state (high-impedance-state) output current	$V_{CC} = \text{MAX}, V_O = 2.4 \text{ V}$		50		50	$\mu\text{A}$	
	$V_{CC} = \text{MAX}, V_O = 0.5 \text{ V}$		-50		-50	$\mu\text{A}$	
$I_I$ Input current at maximum input voltage	$V_{CC} = \text{MAX}, V_I = 5.5 \text{ V}$		1		1	mA	
$I_{IH}$ High-level input current	$V_{CC} = \text{MAX}, V_I = 2.7 \text{ V}$		50		50	$\mu\text{A}$	
$I_{IL}$ Low-level input current	$V_{CC} = \text{MAX}, V_I = 0.5 \text{ V}$		-2		-2	mA	
$I_{OS}$ Short-circuit output current ‡	$V_{CC} = \text{MAX}$	-40	-100	-40	-100	mA	
$I_{CC}$ Supply current	Output high	$V_{CC} = \text{MAX}$	All inputs at 0 V		7	13	mA
	Output low		Output control at 0 V, Other inputs at 5 V		9	16	
	Output off		All inputs at 5 V		14	25	

\*For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.

\*\*All typical values are at  $V_{CC} = 5 \text{ V}, T_A = 25^{\circ}C$ .

‡Duration of the short-circuit test should not exceed one second.

#### SWITCHING CHARACTERISTICS, $V_{CC} = 5 \text{ V}, T_A = 25^{\circ}C, N = 10$

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
$t_{PLH}$ Propagation delay time, low-to-high-level output	$C_L = 15 \text{ pF}, R_L = 280 \Omega$	2	4	6	ns	
	$C_L = 50 \text{ pF}, R_L = 280 \Omega$		5.5			
$t_{PHL}$ Propagation delay time, high-to-low-level output	$C_L = 15 \text{ pF}, R_L = 280 \Omega$	2	5	7.5	ns	
	$C_L = 50 \text{ pF}, R_L = 280 \Omega$		7			
$t_{ZH}$ Output enable time to high level	$C_L = 50 \text{ pF}, R_L = 280 \Omega$ See Note 1		13	19.5	ns	
$t_{ZL}$ Output enable time to low level			14	21	ns	
$t_{HZ}$ Output disable time from high level			5.5	8.5	ns	
$t_{LZ}$ Output disable time from low level		$C_L = 5 \text{ pF}$		9	14	ns

NOTE 1: Load circuit and waveforms are shown on page 2-293