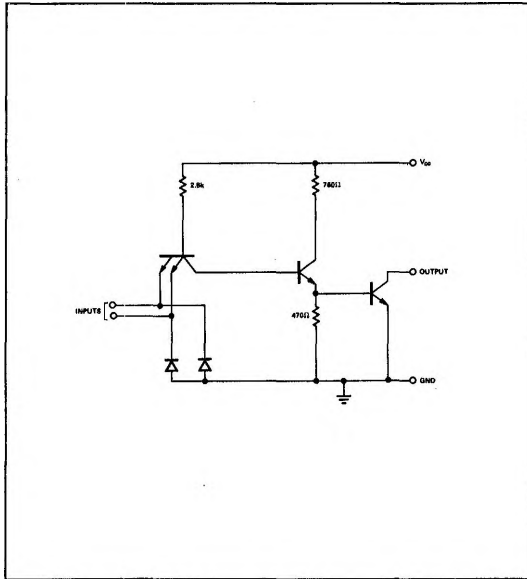


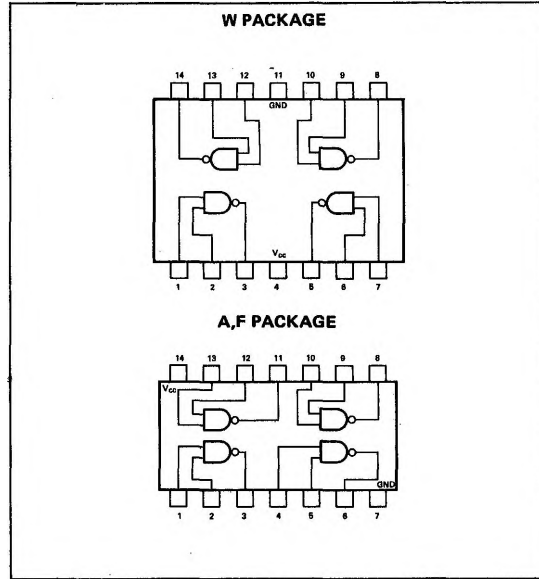
S54H01-A,F,W • N74H01-A,F

DIGITAL 54/74 TTL SERIES

SCHEMATIC (each gate)



PIN CONFIGURATIONS



RECOMMENDED OPERATING CONDITIONS

Supply Voltage V_{CC} : S54H01 Circuits N74H01 Circuits	MIN	NOM	MAX	UNIT
	4.5	5	5.5	V
Normalized Fan-Out from each Output, N Operating Free-Air Temperature Range, T_A :	4.75	5	5.25	V
	-55	25	125	°C
S54H01 Circuits	0	25	70	°C
N74H01 Circuits				

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

PARAMETER	TEST CONDITIONS*	MIN	TYP**	MAX	UNIT
$V_{in(1)}$	Logical 1 input voltage required at all input terminals to ensure logical 0 (on) level at output $V_{CC} = \text{MIN},$	2			V
$V_{in(0)}$	Logical 0 input voltage required at any input terminal to ensure logical 1 (off) level at output $V_{CC} = \text{MIN},$			0.8	V
$I_{out(1)}$	Output reverse current $V_{CC} = \text{MIN},$ $V_{out(1)} = 5.5V,$			250	μA
$V_{out(0)}$	Logical 0 output voltage (on level) $V_{CC} = \text{MIN},$ $I_{sink} = 20mA$			0.4	V
$I_{in(0)}$	Logical 0 level input current (each input) $V_{CC} = \text{MAX},$			-2	mA
$I_{in(1)}$	Logical 1 level input current (each input) $V_{CC} = \text{MAX},$ $V_{CC} = \text{MAX},$			50 1	μA mA
$I_{CC(0)}$	Logical 0 level supply current $V_{CC} = \text{MAX},$		26	40	mA
$I_{CC(1)}$	Logical 1 level supply current $V_{CC} = \text{MAX},$		6.8	10.0	mA

DIGITAL 54/74 TTL SERIES ■ S54H01, N74H01**SWITCHING CHARACTERISTICS, $V_{CC} = 5V$, $T_A = 25^\circ C$, $N = 10$**

PARAMETER		TEST CONDITIONS†		MIN	TYP**	MAX	UNIT
t_{pd0}	Propagation delay time to logical 0 level	$C_L = 25pF$,	$R_L = 280\Omega$		7.5	12.0	ns
t_{pd1}	Propagation delay time to logical 1 level	$C_L = 25pF$,	$R_L = 280\Omega$		10.0	15.0	ns

* 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 $V_{CC} = 5V$, $T_A = 25^\circ C$.

† Load resistor R_L is connected from V_{CC} to the output, and load capacitor C_L is connected from the output to ground.