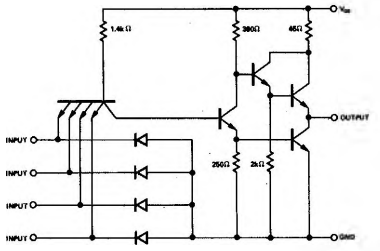
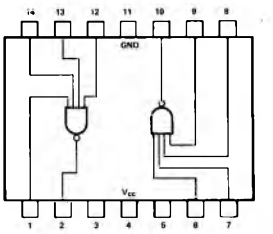
SCHEMATIC (each gate)



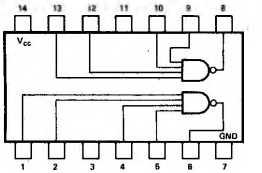
NOTES:
1. Component values shown are nominal.

PIN CONFIGURATIONS

W PACKAGE



A,F PACKAGE



RECOMMENDED OPERATING CONDITIONS

		MIN	NOM	MAX	UNIT
Supply Voltage V_{CC}: S54H40 Circuits		4.5	5	5.5	V
N74H40 Circuits		4.75	5	5.25	V
Normalized Fan-Out from each Output, N				30	
Operating Free-Air Temperature Range, T_A:	S54H40 Circuits	-55	25	125	°C
	N74H40 Circuits	0	25	70	°C

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 level at output	V_{CC} = MIN,		2			V
$V_{in(0)}$	Logical 0 input voltage required at any input terminal to ensure logical 1 level at output	V_{CC} = MIN,				0.8	V
$V_{out(1)}$	Logical 1 output voltage	V_{CC} = MIN, I_{load} = −1.5mA	V_{in} = 0.8V,	2.4			V
$V_{out(0)}$	Logical 0 output voltage	V_{CC} = MIN, I_{sink} = 60mA	V_{in} = 2V,			0.4	V
$I_{in(0)}$	Logical 0 level input current (each input)	V_{CC} = MAX,	V_{in} = 0.4V			−4	mA
$I_{in(1)}$	Logical 1 level input current (each input)	V_{CC} = MAX,	V_{in} = 2.4V			100	μA
		V_{CC} = MAX,	V_{in} = 5.5V			1	mA
I_{OS}	Short circuit output current**	V_{CC} = MAX		−40		−125	mA
$I_{CC(0)}$	Logical 0 level supply current	V_{CC} = MAX,	V_{in} = 4.5V		25	40	mA
$I_{CC(1)}$	Logical 1 level supply current	V_{CC} = MAX,	V_{in} = 0		10.4	16	mA

SWITCHING CHARACTERISTICS, V_{CC} = 5V, T_A = 25°C, N = 30

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT
t_{pd0}	Propagation delay time to logical 0 level	C_L = 25pF,	R_L = 93Ω		6.5	12	ns
t_{pd1}	Propagation delay time to logical 1 level	C_L = 25pF,	R_L = 93Ω		8.5	12	ns

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

** Not more than one output should be shorted at a time, and duration of short circuit test should not exceed 1 second.

† All typical values are at V_{CC} = 5V, T_A = 25°C.