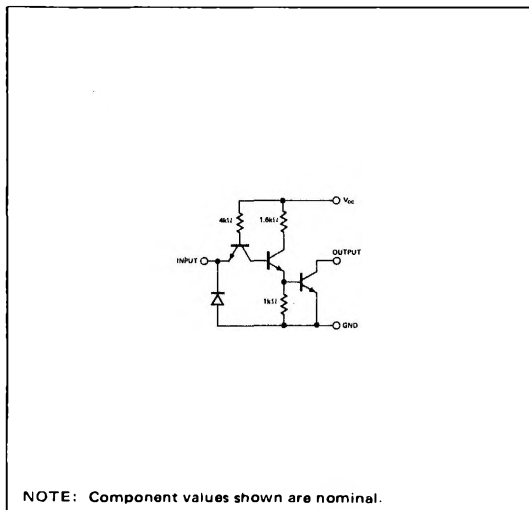


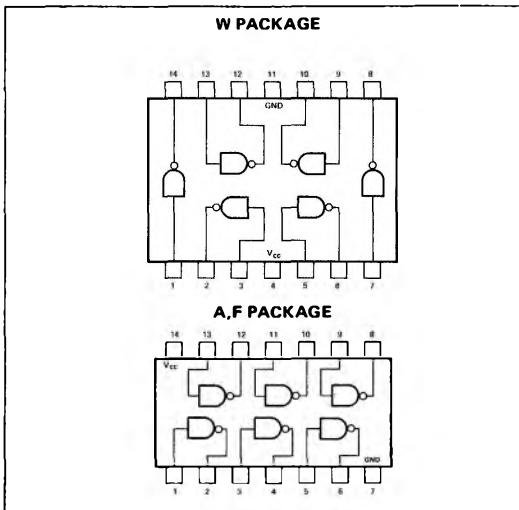
S5405-A,F,W • N7405-A,F

DIGITAL 54/74 TTL SERIES

SCHEMATIC (each inverter)



PIN CONFIGURATIONS



### RECOMMENDED OPERATING CONDITIONS

	MIN	NOM	MAX	UNIT
Supply Voltage $V_{CC}$ : S5405 Circuits	4.5	5	5.5	V
N7405 Circuits	4.75	5	5.25	V
Normalized Fan-Out from Output, N			10	
Operating Free-Air Temperature Range, $T_A$ : S5405 Circuits	-55	25	125	$^{\circ}\text{C}$
N7405 Circuits	0	25	70	$^{\circ}\text{C}$

### 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 input terminal to ensure logical 0 (on) level at output	2			V
$V_{in(0)}$	Logical 0 input voltage required at input terminal to ensure logical 1 (off) level at output			0.8	V
$I_{out(1)}$	Output reverse current	$V_{CC} = \text{MIN}$ , $V_{out(1)} = 5.5\text{V}$	$V_{in} = 0.8\text{V}$ ,	250	$\mu\text{A}$
$V_{out(0)}$	Logical 0 output voltage (on level)	$V_{CC} = \text{MIN}$ , $I_{sink} = 16\text{mA}$	$V_{in} = 2\text{V}$ ,	0.4	V
$I_{in(0)}$	Logical 0 level input current	$V_{CC} = \text{MAX}$ ,	$V_{in} = 0.4\text{V}$	-1.6	mA
$I_{in(1)}$	Logical 1 level input current	$V_{CC} = \text{MAX}$ , $V_{CC} = \text{MAX}$ ,	$V_{in} = 2.4\text{V}$ $V_{in} = 5.5\text{V}$	40 1	$\mu\text{A}$ mA
$I_{CC(0)}$	Logical 0 level supply current	$V_{CC} = 5\text{V}$ , $T_A = 25^{\circ}\text{C}$	$V_{in} = 5\text{V}$ ,	18 33	mA
$I_{CC(1)}$	Logical 1 level supply current	$V_{CC} = 5\text{V}$ , $T_A = 25^{\circ}\text{C}$	$V_{in} = 0$ ,	6 12	mA

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

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT
$t_{pd0}$	Propagation delay time to logical 0 level	$C_L = 15pF$ ,	$R_L = 400\Omega$		8	15	ns
$t_{pd1}$	Propagation delay time to logical 1 level	$C_L = 15pF$ ,	$R_L = 4 k\Omega$		40	55	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  $V_{CC} = 5V$ ,  $T_A = 25^\circ C$