

HEX BUFFER/DRIVER WITH OPEN COLLECTOR HIGH VOLTAGE OUTPUTS

S5407
S5417
N7407
N7417

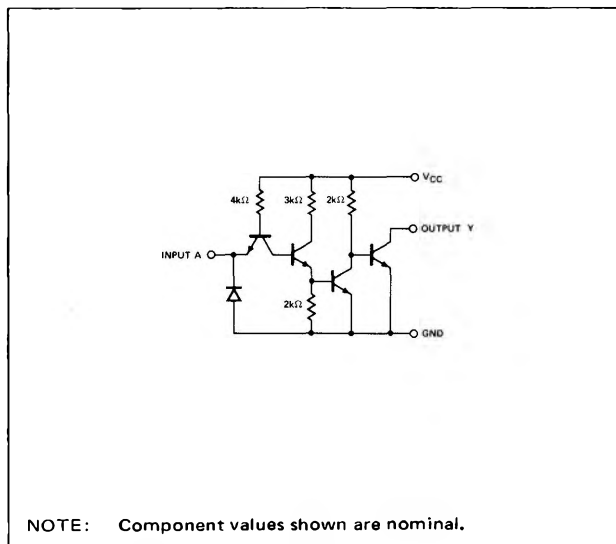
S5407-A,F,W • S5417-A,F,W • N7407-A,F • N7417-A,F

DIGITAL 54/74 TTL SERIES

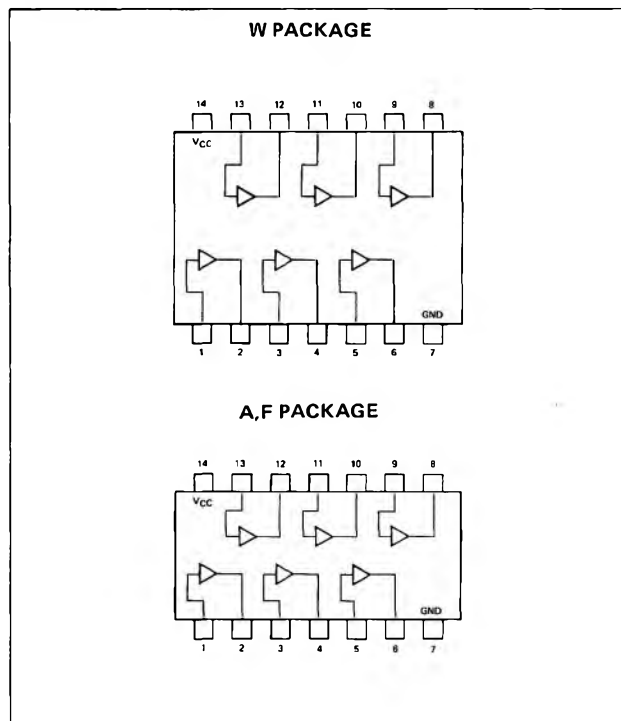
DESCRIPTION

The 54/7407 and 54/7417 Hex Buffer/Driver features standard TTL inputs with non-inverted high voltage, high current open collector outputs for interface with MOS, lamps or relays. The 54/7407 minimum output is 30 volts and the 54/7417 minimum output is 15 volts.

SCHEMATIC (each buffer/driver)



PIN CONFIGURATIONS



RECOMMENDED OPERATING CONDITIONS

	S5407, S5417			N7407, N7417			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply Voltage V_{CC}	4.5	5	5.5	4.75	5	5.25	V
Output Voltage, V_{OH} : S5407, N7407			30			30	
S5417, N7417			15			15	
Low-Level Output Current, I_{OL}			30			40	mA
Operating Free-Air Temperature Range, T_A	-55	25	125	0	25	70	°C

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

PARAMETER	TEST CONDITIONS *	MIN	TYP**	MAX	UNIT
V_{IH} High-level input voltage		2			V
V_{IL} Low-level input voltage				0.8	V
I_{OH} High-level output current	$V_{CC} = \text{MIN}, V_1 = 2V, V_{OH} = \text{MAX}$			250	μA
V_{OL} Low-level output voltage	$V_{CC} = \text{MIN}, V_1 = 0.8V, I_{OL} = \text{MAX}$			0.7	V
	$V_{CC} = \text{MIN}, V_1 = 0.8V, I_{OL} = 16\text{mA}$			0.4	V
I_{IH} High-level input current	$V_{CC} = \text{MAX}, V_1 = 2.4V$			40	μA
(each input)	$V_{CC} = \text{MAX}, V_1 = 5.5V$			1	mA
I_{IL} Low-level input current	$V_{CC} = \text{MAX}, V_1 = 0.4V$			-1.6	mA
(each input)					
I_{CCH} Supply current, high-level output	$V_{CC} = \text{MAX}, V_1 = 5V$		29	41	mA
I_{CCL} Supply current, low-level output	$V_{CC} = \text{MAX}, V_1 = 0$		21	30	mA

SIGNETICS DIGITAL 54/74 TTL SERIES - S5407 • S5417 • N7407 • N7417

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

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT
t_{PLH}	Propagation delay time, low-to-high-level output	$C_L = 15pF$,	$R_L = 110\Omega$		6	10	ns
t_{PHL}	Propagation delay time, high-to-low-level output	$C_L = 15pF$,	$R_L = 110\Omega$		20	30	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 $V_{CC} = 5V$, $T_A = 25^\circ C$.