HEX INVERTER BUFFER/DRIVER WITH OPEN COLLECTOR HIGH VOLTAGE OUTPUTS

S5406
S5416
N7406
N7416

S5406–A,F,W • S5416–A,F,W • N7406–A,F • N7416–A,F

DIGITAL 54/74 TTL SERIES

DESCRIPTION

The 54/7406 and 54/7416 Hex Inverter Buffer/Drivers features standard TTL inputs with inverted high voltage, high current, open collector outputs for interface with MOS, lamps or relays. The 54/7406 minimum output breakdown is 30 volts and the 54/7416 minimum output breakdown is 15 volts.

SCHEMATIC (each inverter)
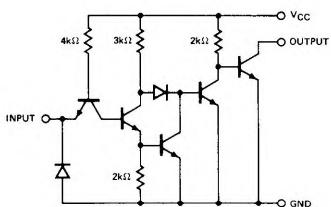
NOTE: Component values shown are nominal.

PIN CONFIGURATIONS

W PACKAGE
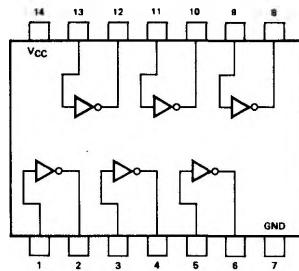
A, F PACKAGE
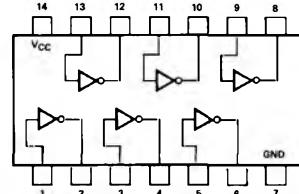
RECOMMENDED OPERATING CONDITIONS

	S5406, S5416			N7406, N7416			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}: S5406, N7406			30			30	
S5416, N7416			15			15	V
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} = MIN, V_I = 0.8V, V_{OH} = MAX			250	μA
V_{OL}	Low-level output voltage	V_{CC} = MIN, V_I = 2V, I_{OL} = MAX			0.7	V
		V_{CC} = MIN, V_I = 2V, I_{OL} = 16mA			0.4	V
I_{IH}	High-level input current (each input)	V_{CC} = MAX, V_I = 2.4V			40	μA
		V_{CC} = MAX, V_I = 5.5V			1	mA
I_{IL}	Low-level input current (each input)	V_{CC} = MAX, V_I = 0.4V			−1.6	mA
I_{CCH}	Supply current, high-level output	V_{CC} = MAX, V_I = 0		30	42	mA
I_{CCL}	Supply current, low-level output	V_{CC} = MAX, V_I = 5V		27	38	mA

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

	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
t_{PLH}	Propagation delay time, low-to-high-level output	C_L = 15pF, R_L = 110 Ω		10	15	ns
t_{PHL}	Propagation delay time, high-to-low-level output	C_L = 15pF, R_L = 110 Ω		14	23	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°C.