

5416/7416 Hex Inverter Buffer/Driver with Open-Collector High-Voltage Output

	Schottky TTL				High-Speed TTL				Low-Power Schottky TTL				Standard TTL				Low-Power TTL			
	Device Type	Package			Device Type	Package			Device Type	Package			Device Type	Package			Device Type	Package		
		C	P	M/CF		C	P	M/CF		C	P	M/CF		C	P	M/CF		C	P	M/CF
T.I.													SN5416	JⓈ		WD				
FAIRCHILD													SN7416	JⓈ	NC					
MOTOROLA													FM5416/FM9N16	DⓈ		FⓈ				
N.S.C.													FC7416/FC9N16	DⓈ	PⓈ					
PHILIPS													SN7416		PⓈ					
N.S.C.													DM5416	JⓈ	NC	WD				
PHILIPS													DM7416	JⓈ	NC					
SIGNETICS													FJH321/7405-S1		Ⓢ					
SIEMENS													S5416	FⓈ	AⓈ	WD				
FUJITSU													N7416	FⓈ	AⓈ					
HITACHI													FLH481T		Ⓢ					
MITSUBISHI													HD7416	Ⓢ	PⓈ					
NEC													M7416		PⓈ					
TOSHIBA													TD7416		PⓈ					

Electrical Characteristics SN5416/SN7416

absolute maximum ratings over operating free-air temperature range

Supply voltage, V _{CC}	7V	Operating free-air temperature range	SN5416	-55°C to 125°C
Input voltage	5.5V		SN7416	0°C to 70°C
Off-state (high-level) voltage applied to open-collector outputs	15V	Storage temperature range		-65°C to 150°C

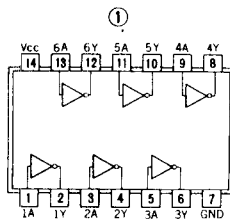
recommended operating conditions

	SN5416			SN7416			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply voltage, V _{CC}	4.5	5	5.5	4.75	5	5.25	V
High-level output voltage, V _{OH}			15			15	V
Low-level output current, I _{OL}			30			40	mA
Operating free-air temperature, T _A	-55		125	0		70	°C

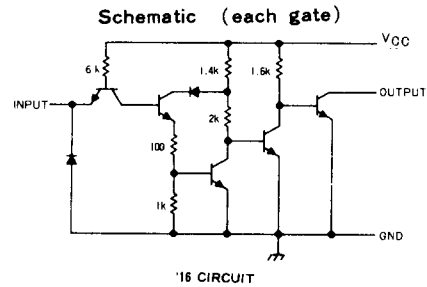
electrical characteristics over recommended operating free-air temperature range

PARAMETER	TEST CONDITIONS †	MIN	TYP ‡	MAX	UNIT	
V _{IH}	High-level input voltage		2		V	
V _{IL}	Low-level input voltage			0.8	V	
V _I	Input clamp voltage	V _{CC} = MIN, I _I = -12mA		-1.5	V	
I _{OH}	High-level output current	V _{CC} = MIN, V _{OH} = MAX		250	μA	
V _{OL}	Low-level output voltage	V _{CC} = MIN, V _{IH} = 2V, I _{OL} = 16mA		0.4	V	
		V _{CC} = MIN, V _{IH} = 2V, I _{OL} = MAX		0.7		
I _I	Input current at maximum input voltage	V _{CC} = MAX, V _I = 5.5V		1	mA	
I _{IH}	High-level input current	V _{CC} = MAX, V _{IH} = 2.4V		40	μA	
I _{IL}	Low-level input current	V _{CC} = MAX, V _{IL} = 0.4V		-1.6	mA	
I _{CC} H	Supply current	V _{CC} = MAX		30	48	
I _{CC} L	Supply current	V _{CC} = MAX		32	51	
I _{CC}	Supply current	V _{CC} = 5V		5.17	mA	
t _{PLH}	Propagation delay time, low-to-high-level output	V _{CC} = 5V, T _A = 25°C, C _L = 15pF, R _L = 110Ω		10	15	ns
				15	23	
t _{PHL}	Propagation delay time, high-to-low-level output					

Pin Assignment (Top View)



positive logic:
Y = A



†16 CIRCUIT

Resistor values shown are nominal and in ohms.

† For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.
‡ All typical values are at V_{CC} = 5V, T_A = 25°C