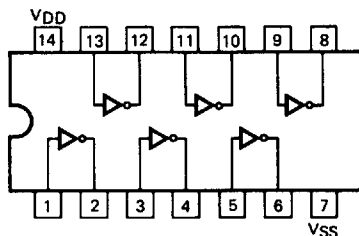


# GD4069UB

## HEX INVERTER

**DESCRIPTION** — The 4069UB is a general purpose Hex Inverter which has standard  $V_{DD}$  input and output characteristics. A single-stage design has been used since the output impedance of a single-input gate is not pattern sensitive. The 4069UB is a Direct Replacement for the 74C04/54C04.

**LOGIC AND CONNECTION DIAGRAM**  
DIP (TOP VIEW)



**NOTE:**  
The SO Package has the same pinouts (Connection Diagram) as the Dual In-line Package.

**DC CHARACTERISTICS:**  $V_{DD}$  as shown,  $V_{SS} = 0$  V (See Note 1)

SYMBOL	PARAMETER		LIMITS									UNITS	TEMP	TEST CONDITIONS
			$V_{DD} = 5$ V			$V_{DD} = 10$ V			$V_{DD} = 15$ V					
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX			
$I_{DD}$	Quiescent Power	XC			1			2			4	$\mu$ A	MIN, 25°C	All inputs at 0 V or $V_{DD}$
					7.5			15			30		MAX	
	Supply Current	XM			0.25			0.5			1	$\mu$ A	MIN, 25°C	
					7.5			15			30		MAX	

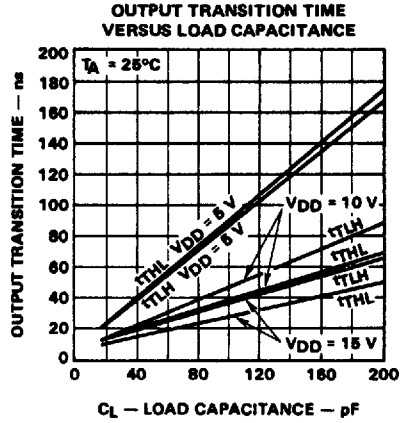
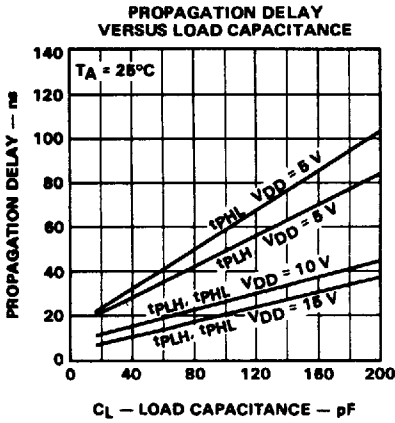
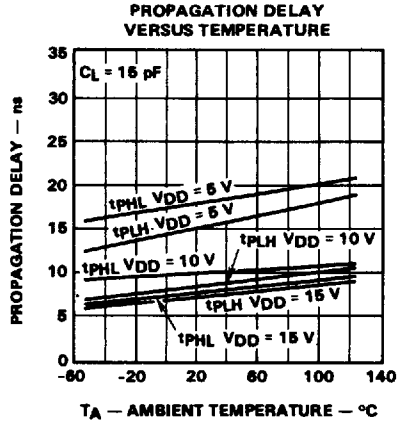
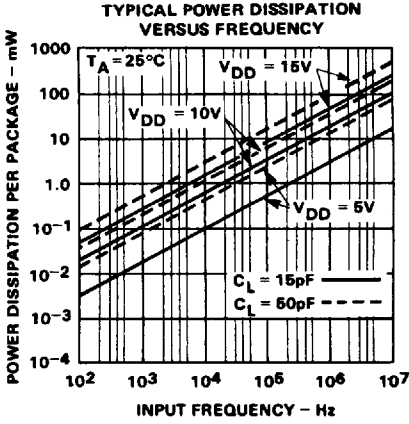
**AC CHARACTERISTICS AND SET-UP REQUIREMENTS:**  $V_{DD}$  as shown,  $V_{SS} = 0$  V,  $T_A = 25^\circ$  C (See Note 2)

SYMBOL	PARAMETER		LIMITS									UNITS	TEST CONDITIONS
			$V_{DD} = 5$ V			$V_{DD} = 10$ V			$V_{DD} = 15$ V				
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
$t_{PLH}$	Propagation Delay		32	64		16	32		13	26	ns	$C_L = 50$ pF, $R_L = 200$ k $\Omega$ Input Transition Times $\leq 20$ ns	
$t_{PHL}$			32	64		16	32		13	26			
$t_{TLH}$	Output Transition Time		45	135		23	70		18	45	ns		
$t_{THL}$			45	135		23	70		18	45			

**NOTES:**

1. Additional DC Characteristics are listed in this section under 4000B Series CMOS Family Characteristics.
2. Propagation Delays and Output Transition Times are graphically described in this section under 4000B Series CMOS Family Characteristics.

TYPICAL ELECTRICAL CHARACTERISTICS



TYPICAL VOLTAGE TRANSFER CHARACTERISTICS

