

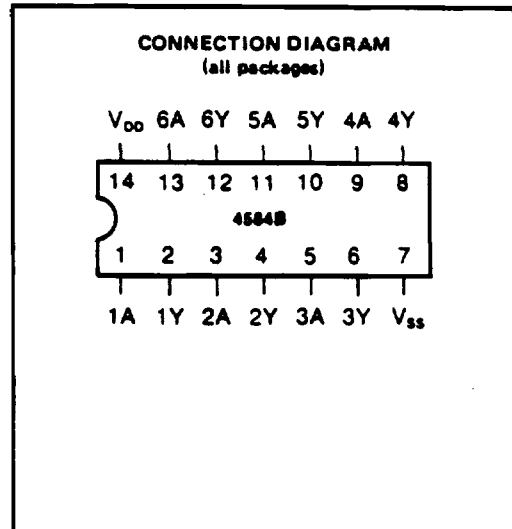
## CMOS HEX INVERTING SCHMITT TRIGGER

### FEATURES:

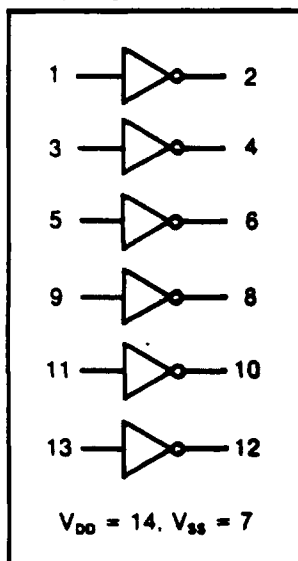
- Schmitt Trigger Action on each Input with no External Components
- Noise Immunity Greater than 30%
- No Limit on Input Rise and Fall Times
- Pin for Pin Replacement for CD40106B, MM74C14 and MCI4584B
- Also Pin Compatible with 74C04 and 4069 Hex Inverters

### DESCRIPTION:

The 4584B consists of six Schmitt Trigger circuits, constructed with MOS P-channel and N-channel enhancement mode devices in a single monolithic structure. These devices find primary use where low power dissipation and/or high noise immunity is desired. The 4584B may be used in place of the MCI4069B hex inverter for enhanced noise immunity or to square up slowly changing waveforms.



### LOGIC DIAGRAMS



### RECOMMENDED OPERATING CONDITIONS

For maximum reliability:

DC Supply Voltage	$V_{DD} - V_{SS}$	3 to 15	Vdc
Operating Temperature	$T_A$		
C		-55 to +125	°C
E		-40 to +85	°C

## ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS<sup>1</sup>

PARAMETER	V <sub>DD</sub> (Vdc)	CONDITIONS	T <sub>LOW</sub> <sup>2</sup>			+25°C			T <sub>HIGH</sub> <sup>2</sup>			Units	
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
QUIESCENT DEVICE CURRENT	I <sub>DD</sub>	5	V <sub>IN</sub> = V <sub>SS</sub> or V <sub>DD</sub> All valid input combinations	—	—	1.0	—	0.005	1.0	—	—	30	μA
		10		—	—	2.0	—	0.01	2.0	—	—	60	
		15		—	—	4.0	—	0.02	4.0	—	—	120	
POSITIVE TRIGGER THRESHOLD VOLTAGE	V <sub>TP</sub>	5	—	2.9	—	2.3	2.9	3.5	—	2.9	—	V	
		10	—	5.3	—	4.5	5.3	7.0	—	5.3	—	V	
		15	—	7.9	—	6.8	7.9	11.0	—	7.9	—	V	
NEGATIVE TRIGGER THRESHOLD VOLTAGE	V <sub>TN</sub>	5	—	2.1	—	1.5	2.1	2.7	—	2.1	—	V	
		10	—	4.3	—	3.0	4.3	5.5	—	4.3	—	V	
		15	—	6.4	—	4.0	6.4	8.2	—	6.4	—	V	
HYSTERESIS VOLTAGE	V <sub>H</sub>	5	0.40	—	2.0	0.40	0.8	2.0	0.40	—	2.0	V	
		10	0.70	—	3.0	0.70	1.0	3.0	0.70	—	3.0	V	
		15	0.85	—	4.0	0.85	1.5	4.0	0.85	—	4.0	V	

NOTES: <sup>1</sup> Remaining Static Electrical Characteristics are listed under "4000B Series Family Specifications".

<sup>2</sup> T<sub>LOW</sub> = -55°C for C

= -40°C for E

T<sub>HIGH</sub> = +125°C for C

= +85°C for E

DYNAMIC CHARACTERISTICS (C<sub>L</sub> = 50pF, T<sub>A</sub> = 25°C)

PARAMETER		V <sub>DD</sub> (Vdc)	Min.	Typ.	Max.	Units
PROPAGATION DELAY TIME	t <sub>PLH</sub>	5	86	107	150	ns
	t <sub>PHL</sub>	10	42	48	60	
		15	30	35	40	
OUTPUT TRANSITION TIME	t <sub>PLH</sub>	5	44	62	200	ns
	t <sub>PHL</sub>	10	24	29	100	
		15	19	23	80	