

## CMOS HEX INVERTING SCHMITT TRIGGER

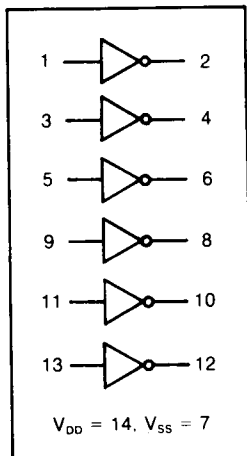
### FEATURES:

- 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

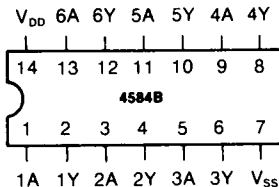
### DESCRIPTION:

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



### CONNECTION DIAGRAM (all packages)



### Add suffix for package:

- C 14-pin Cerdip
- D 14-pin Ceramic
- E 14-pin Epoxy
- F 14-pin Flat
- H Chip

### RECOMMENDED OPERATING CONDITIONS

#### For maximum reliability:

DC Supply Voltage	$V_{DD} - V_{SS}$	3 to 15	Vdc
Operating Temperature	$T_A$		
C, D, F, H Device		-55 to +125	°C
E Device		-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.	Max.	Min.	Typ.	Max.	Min.	Max.	
QUIESCENT DEVICE CURRENT	I <sub>DD</sub>	V <sub>IN</sub> = V <sub>SS</sub> or V <sub>DD</sub> All valid input combinations	—	1.0	—	.005	1.0	—	30	μA
			—	2.0	—	.01	2.0	—	60	
			—	4.0	—	.02	4.0	—	120	
POSITIVE TRIGGER THRESHOLD VOLTAGE	V <sub>TP</sub>		2.3	3.5	2.3	2.9	3.5	2.3	3.5	V
			4.5	7.0	4.5	5.3	7.0	4.5	7.0	
			6.8	11.0	6.8	7.7	11.0	6.8	11.0	
NEGATIVE TRIGGER THRESHOLD VOLTAGE	V <sub>TN</sub>		1.5	2.7	1.5	2.15	2.7	1.5	2.7	V
			3.0	5.5	3.0	4.4	5.5	3.0	5.5	
			4.0	8.2	4.0	6.5	8.2	4.0	8.2	
HYSTERESIS VOLTAGE	V <sub>H</sub>		.4	2.0	.4	.75	2.0	.4	2.0	V
			.7	3.0	.7	.95	3.0	.7	3.0	
			.85	4.0	.85	1.2	4.0	.85	4.0	

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, D, F, H devices.

= -40°C for E Devices.

T<sub>HIGH</sub> = +125°C for E, D, F, H devices.

= +85°C for E devices.

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	I <sub>PLH</sub>	5	86	107	150	ns
	I <sub>PML</sub>	10	42	48	60	
		15	30	35	40	
OUTPUT TRANSITION TIME	I <sub>TLH</sub>	5	44	62	200	ns
	I <sub>TML</sub>	10	24	29	100	
		15	19	23	80	