CMOS HEX INVERTING SCHMITT TRIGGER

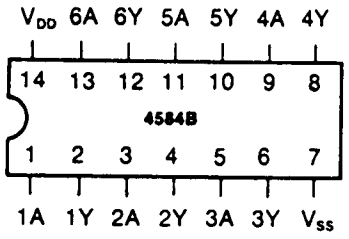
FEATURES:

- **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.

CONNECTION DIAGRAM
(all packages)

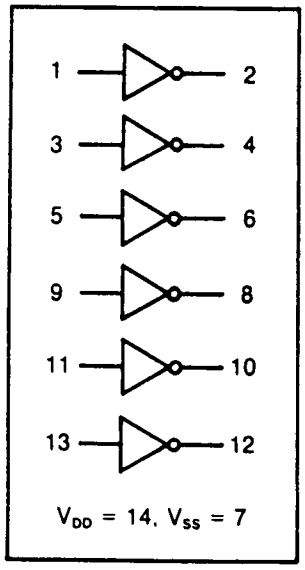


RECOMMENDED OPERATING CONDITIONS

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

LOGIC DIAGRAMS



ELECTRICAL CHARACTERISTICS

STATIC CHARACTERISTICS[1]

PARAMETER		V_{DD} (Vdc)	CONDITIONS	T_{LOW}[2]			+25°C			T_{HIGH}[2]			Units
				Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
QUIESCENT DEVICE CURRENT	I_{DD}	5	$V_{IN} = V_{SS}$ or V_{DD}	—	—	1.0	—	0.005	1.0	—	—	30	μA
		10	All valid input	—	—	2.0	—	0.01	2.0	—	—	60	
		15	combinations	—	—	4.0	—	0.02	4.0	—	—	120	
POSITIVE TRIGGER THRESHOLD VOLTAGE	V_{TP}	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_{TN}	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_H	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: [1] Remaining Static Electrical Characteristics are listed under "4000B Series Family Specifications".
[2] T_{LOW} = −55°C for C
= −40°C for E
T_{HIGH} = +125°C for C
= +85°C for E

DYNAMIC CHARACTERISTICS (C_L = 50pF, T_A = 25°C)

PARAMETER		V_{DD} (Vdc)	Min.	Typ.	Max.	Units
PROPAGATION DELAY TIME	t_{PLH} t_{PHL}	5	86	107	150	ns
		10	42	48	60	
		15	30	35	40	
OUTPUT TRANSITION TIME	t_{TLH} t_{THL}	5	44	62	200	ns
		10	24	29	100	
		15	19	23	80	