

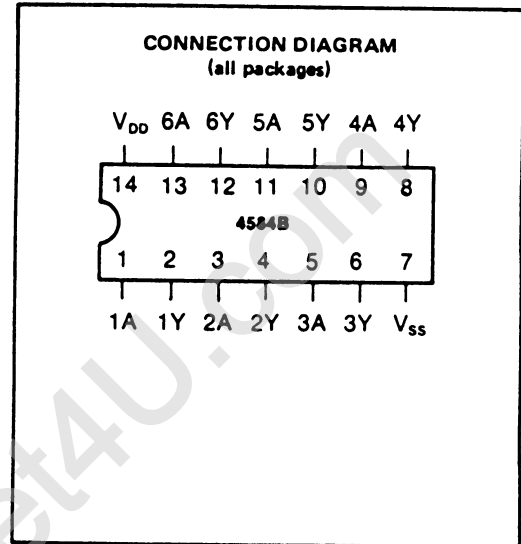
CMOS HEX INVERTING SCHMITT TRIGGER

FEATURES:

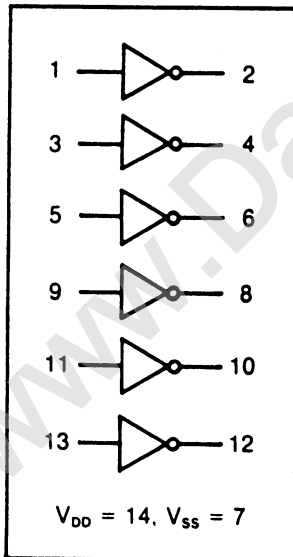
- Schmitt Trigger Action on each Input with no External Components
- Noise Immunity Greater than 30%
- No Limit on Input Rise and Fall Times
- Pin for Pin Replacement for CD40106B, MM74C14 and MCI4584B
- Also Pin Compatible with 74C04 and 4069 Hex Inverters

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 CHARACTERISTICS¹

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 combinations	—	—	2.0	—	0.01	2.0	—	—	60	
		15		—	—	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	i _{PLH}	5	86	107	150	ns
	i _{PHL}	10	42	48	60	
		15	30	35	40	
OUTPUT TRANSITION TIME	i _{TLH}	5	44	62	200	ns
	i _{THL}	10	24	29	100	
		15	19	23	80	