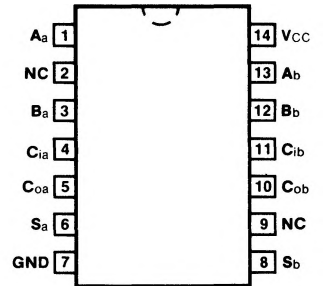


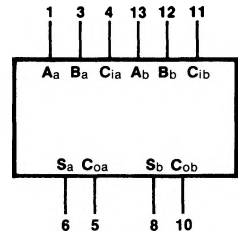
# 54H/74H183

## DUAL HIGH SPEED ADDER

### CONNECTION DIAGRAM PINOUT A



### LOGIC SYMBOL



VCC = Pin 14  
GND = Pin 7

**DESCRIPTION** — The '183 contains two independent full adders. Each adder has an individual carry output for use in multiple-input, carry-save techniques to produce the true sum and true carry outputs with no more than two gate delays. Typical propagation delay is 12 ns.

### TRUTH TABLE (Each Half)

INPUTS			OUTPUTS	
A	B	C <sub>i</sub>	S	C <sub>o</sub>
L	L	L	L	L
H	L	L	H	L
L	H	L	H	L
L	L	H	H	L
H	H	L	L	H
H	L	H	L	H
L	H	H	L	H
H	H	H	H	H

H = HIGH Voltage Level  
L = LOW Voltage Level

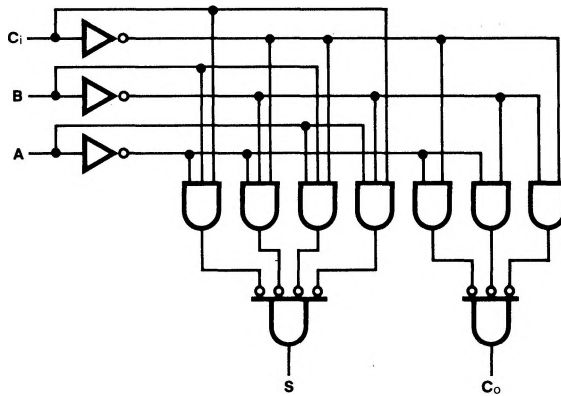
**ORDERING CODE:** See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		VCC = +5.0 V ±5%, T <sub>A</sub> = 0°C to +70°C	VCC = +5.0 V ±10%, T <sub>A</sub> = -55°C to +125°C	
Plastic DIP (P)	A	74H183PC		9A
Ceramic DIP (D)	A	74H183DC	54H183DM	6A
Flatpak (F)	A	74H183FC	54H183FM	3I

**INPUT LOADING/FAN-OUT:** See Section 3 for U.L. definitions

PIN NAMES	DESCRIPTION	54/74H (U.L.) HIGH/LOW
A <sub>a</sub> , B <sub>a</sub>	Side a Operand Inputs	3.75/3.75
A <sub>b</sub> , B <sub>b</sub>	Side b Operand Inputs	3.75/3.75
C <sub>ia</sub> , C <sub>ib</sub>	Carry Inputs	3.75/3.75
S <sub>a</sub> , B <sub>b</sub>	Sum Outputs	25/12.5
C <sub>oa</sub> , C <sub>ob</sub>	Carry Outputs	25/12.5

LOGIC DIAGRAM



DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

SYMBOL	PARAMETER	54/74H		UNITS	CONDITIONS
		Min	Max		
I <sub>CC</sub>	Power Supply Current	XM	69	mA	V <sub>CC</sub> = Max All Inputs = Gnd
		XC	75		

AC CHARACTERISTICS: V<sub>CC</sub> = +5.0 V, T<sub>A</sub> = +25° C (See Section 3 for waveforms and load configurations)

SYMBOL	PARAMETER	54/74H		UNITS	CONDITIONS
		C <sub>L</sub> = 25 pF R <sub>L</sub> = 280 Ω			
		Min	Max		
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay A <sub>x</sub> , B <sub>x</sub> or C <sub>ix</sub> to S <sub>x</sub>		15 18	ns	Figs. 3-1, 3-20
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay A <sub>x</sub> , B <sub>x</sub> or C <sub>ix</sub> to C <sub>ox</sub>		15 18		