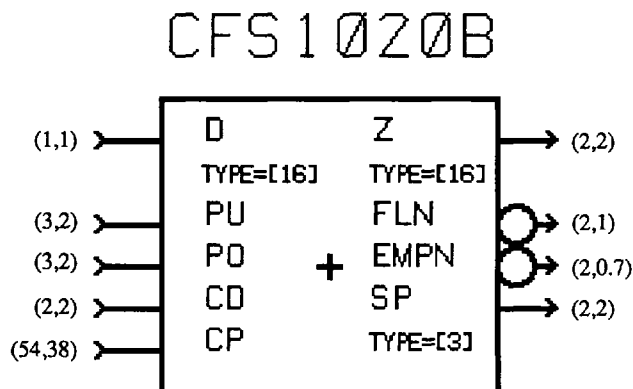


GENERAL DESCRIPTION: 5 X 16 LIFO

CFS1020B is a 16-bit wide last-in-first-out circuit which can be used as a stack with built-in stack pointer. The data is allowed to be written onto the top of the stack during the next clock cycle following the push operation. The depth of the LIFO can grow to five. After a depth of five is reached, FLN goes LOW. Any further push onto a full stack overwrites data at the top of the stack. Data is allowed to be read from the stack for the rest of the cycle following the pop operation. When the stack is empty, EMPN goes LOW. The stack pointer points the next location to be written. When the stack pointer is 000, the stack is empty. When the stack pointer is 101, the stack is full.

PIN CONNECTION DIAGRAM:**FEATURES:**

- 5-word deep
- Full/empty signal
- Synchronous clear
- 16-bit data

EQUIVALENT USED GATES: 684 GATES
(for rough area estimates)

THIS MEGAFUNCTION CONSISTS OF :
684 soft-coded gates.

POWER: NOT AVAILABLE.

FAULT COVERAGE(%): 98.93%

FUNCTIONAL TABLE:

INPUTS			OPERATION
CD	PU	PO	
0	--	--	CLEAR
1	0	0	HOLD
1	1	0	PUSH
1	0	1	POP
1	1	1	UNDEFINED

PIN DESCRIPTION:

D15:0	DATA INPUT TO THE LIFO
PU	PUSH CONTROL INPUT
PO	POP CONTROL INPUT
CD	CLEAR CONTROL INPUT
CP	CLOCK INPUT
Z15:0	DATA OUTPUT BUS
FLN	FULL SIGNAL OUTPUT
EMPN	EMPTY SIGNAL OUTPUT
SP2:0	STACK POINTER OUTPUT

CYCLE TIME AND CLOCK CHARACTERISTICS:

TIME	10K TYP. (ns)
MINIMUM CLOCK LOW TIME	10
MINIMUM CLOCK HIGH TIME	8
MINIMUM CYCLE TIME	18

MAXIMUM COMBINATIONAL PROPAGATION DELAY:

INPUT	10K TYP. (ns)			
	FLN	Z	EMP	SP
CP	4	4	4	4

ASSUMING OUTPUT LOADING OF 2

SET-UP TIME AND HOLD TIME:

INPUT	10K TYP. (ns)	
	SET-UP	HOLD
PU	7	0
PO	7	0
D	3	0
CD	3	0