

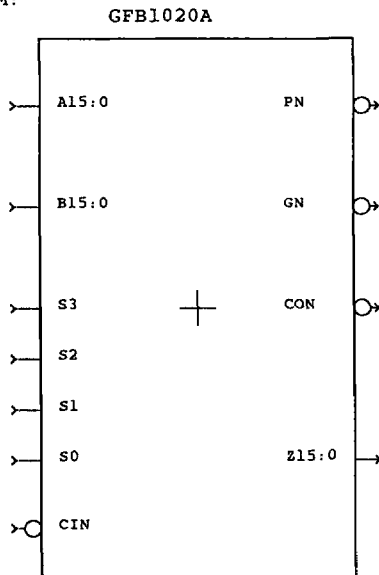
GFB1020A

16-BIT ALU

GENERAL DESCRIPTION:

THE GFB1020A MEGAFUNCTION IS A 16-BIT VERSION OF THE FAIRCHILD 100181 ALU, EXCEPT FOR THE ABSENCE OF THE OUTPUT LATCHES AND THE LATCH ENABLE SIGNAL. THE GFB1020A ARITHMETIC LOGIC UNIT (ALU) PERFORMS 4 BINARY, 4 BCD, AND 8 LOGIC OPERATIONS ON TWO 16-BIT WORDS (A15-A0 AND B15-B0). THE OPERATIONS ARE SELECTED BY THE FOUR FUNCTION-SELECT LINES (S3, S2, S1, S0). FOR A DETAILED FUNCTIONAL DESCRIPTION SEE THE FAIRCHILD DATA BOOK.

PIN DIAGRAM:



- GATES USED - 555
- AREA USED - 812 GATE LOCATIONS
- LL7000 SERIES COMPATIBLE
- LSA2000 SERIES COMPATIBLE

INPUT LOADING: (LOADING IN TRANSISTOR PAIRS)

A15:0 - 3	B12:11 - 2.5	B6:5 - 2	B2:1 - 2	S3:0 - 2
B15 - 2.5	B10:9 - 2	B4:3 - 2.5	B0 - 2.5	CIN - 4
B14:13 - 2	B8:7 - 2.5			

OUTPUT DRIVE: (DRIVE IN (#P, #N))

PN - (1, 0.25)	GN - (1, 0.25)	CON - (1, 0.5)	Z15:0 - (2, 2)
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NDL SYNTAX:

Z(PN, GN, CON, Z15, Z14, Z13, Z12, Z11, Z10, Z9, Z8, Z7, Z6, Z5, Z4, Z3, Z2, Z1, Z0)

-GFB1020A (A15, A14, A13, A12, A11, A10, A9, A8, A7, A6, A5, A4, A3, A2, A1, A0, B15, B14, B13, B12, B11, B10, B9, B8, B7, B6, B5, B4, B3, B2, B1, B0, S3, S2, S1, S0, CIN)S

AC CHARACTERISTICS*:

FROM	TO	5K TYP. DELAY (NS)	7K TYP. DELAY (NS)
ANY A	PN	29	18
ANY A	GN	34	21
ANY A	CON	40	24
ANY A	ANY Z	55	33
ANY B	PN	31	19
ANY B	GN	36	22
ANY B	CON	43	26
ANY B	ANY Z	58	35
ANY S	PN	32	20
ANY S	GN	31	19
ANY S	CON	50	30
ANY S	ANY Z	65	39
CIN	CON	15	9
CIN	ANY Z	30	18

* ASSUMING OUTPUT LOADING OF 3