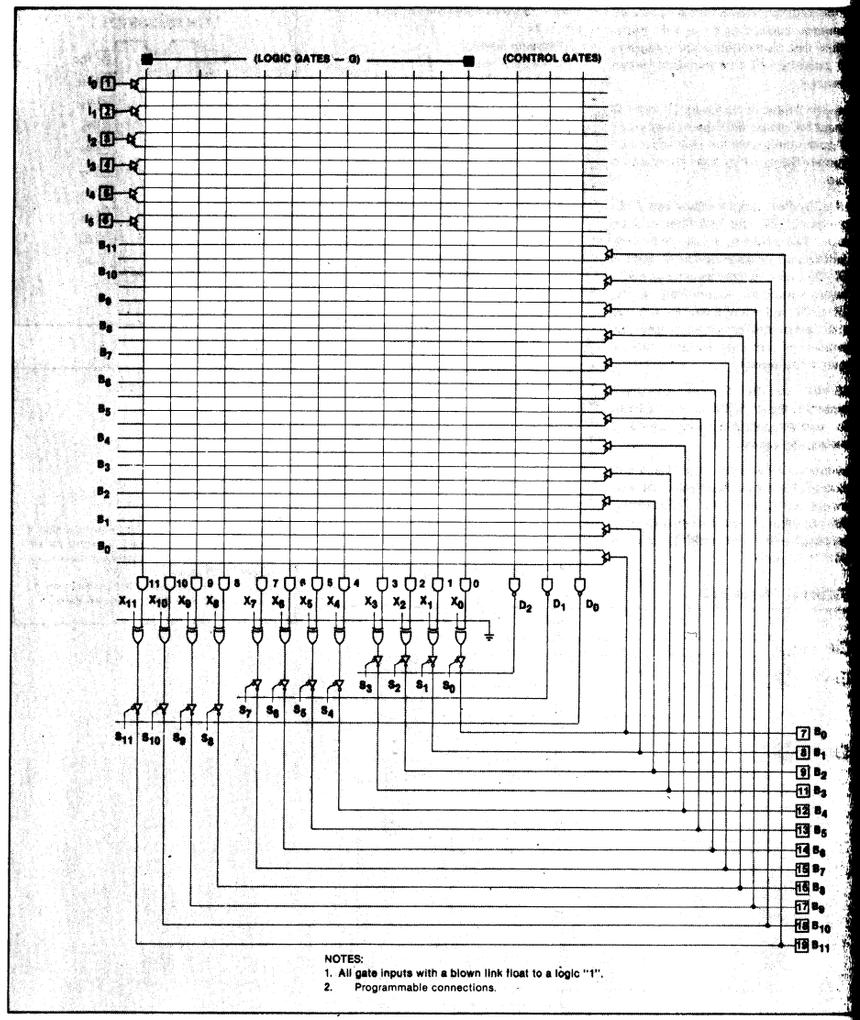
Preview

INTEGRATED FUSE LOGIC
SERIES 20

FPGA LOGIC DIAGRAM



VALVO

Preview

INTEGRATED FUSE LOGIC
SERIES 20

ABSOLUTE MAXIMUM RATINGS

PARAMETER		RATING Min	RATING Max	UNIT
V_{CC}	Supply voltage		+7	Vdc
V_{IN}	Input voltage		+5.5	Vdc
V_{OUT}	Output voltage		+5.5	Vdc
I_{IN}	Input currents	−30	+30	mA
I_{OUT}	Output currents		+100	mA
	Temperature range			C°
T_A	Operating			
	N82S150/151	0	+75	
	S82S150/151	−55	+125	
T_{STG}	Storage	−65	+150	

THERMAL RATINGS

TEMPERATURE	Military	Commercial
Maximum junction	175°C	150°C
Maximum ambient	125°C	75°C
Allowable thermal rise ambient to junction	50°C	75°C

DC ELECTRICAL CHACTERISTICS

N82S150/151: $0°C \le T_A \le +75°C$, $4.75V \le V_{CC} \le 5.25V$
S82S150/151: $-55°C \le T_A \le +125°C$, $4.5V \le V_{CC} \le 5.5V$

	PARAMETER	TEST CONDITION	N82S150/151 Min	N82S150/151 Typ[2]	N82S150/151 Max	S82150/151 Min	S82150/151 Typ[2]	S82150/151 Max	UNIT
	Input voltage[3]								V
V_{IL}	Low	V_{CC} = Min			.85			.80	
V_{IH}	High	V_{CC} = Max	2.0			2.0			
V_{IC}	Clamp[3,4]	V_{CC} = Min, I in = − 18mA		−.8	−1.2		−.8	−1.2	
	Output voltage[3]	V_{CC} = Min							V
V_{OL}	Low	I_{OL} = 10mA			.5				
V_{OL}	Low	I_{OL} = 8mA						.5	
V_{OH}	High	I_{OH} = −2mA	2.4			2.4			
	Input Current								µA
I_{IL}	Low	V_{IN} = 0.45V			−100			−150	
I_{IH}	High	V_{IN} = 5.5V			40			50	
	Output Current	V_{CC} = max							
I_{OLK}	Leakage (82S150)	V_{OUT} = 5.5V			40			60	µA
$I_{O(OFF)}$	Hi-Z state (82S151)	V_{OUT} = 5.5V			40			60	µA
		V_{OUT} = .45V			−40			−60	
I_{OS}	Short circuit (82S151)[4,5]	V_{OUT} = 0V	−20		−70	−15		−85	mA
I_{CC}	V_{CC} supply current	V_{CC} = max		130	155		130	155	mA
	Capacitance	V_{CC} = 5V							pF
C_{IN}	Input	V_{IN} = 2.0V		8			8		
C_{IN}	I/O	V_B = 2.0V		15			15		

AC ELECTRICAL CHACTERISTICS

$R_1 = 470\Omega$, $R_2 = 1K\Omega$
N82S150/151: $0°C \le T_A \le +75°C$, $4.75V \le V_{CC} \le 5.25V$
S82S150/151: $-55°C \le T_A \le +125°C$, $4.5V \le V_{CC} \le 5.5V$

	PARAMETER	TO	FROM	TEST CONDITIONS	N82S150/151 Min	N82S150/151 Typ[2]	N82S150/151 Max	S82S150/151 Min	S82S150/151 Typ[2]	S82S150/151 Max	UNIT
T_{PD}	Progagation delay	Output ±	Input ±	C_L = 30pF		20	25		20		ns
T_{OE}	Output enable	Output−	Input ±			20	25		20		ns
T_{OD}	Output disable[7]	Output+	Input ±	C_L = 5pF		20	25		20		

NOTES:
1. Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only, and functional operation of the device of these or any other condition above those indicated in the operation of the device specifications is not implied.
2. All typical values are at V_{CC} = 5V, T_A = 25°C.
3. All voltage values are with respect to network ground terminal.
4. Test one at a time.
5. Duration of short circuit should not exceed 1 second.
6. Measured at $V_T = V_{OL} + 0.5V$.

VALVO