

ice40

Result of synth_ice40 in Yosys for various softcores

core name	options	total cells	flip-flops	LUT4	CARRY	TBUF	RAM40_4K	mem	memory bits
darkriscv		7777	2262	5176	339	0	0	0	0
glacial		355	84	224	47	0	0	0	0
riscv_simple	RV32I UNI	8273	1743	5801	441	32	256	0	0
riscv_simple	RV32I MULTI	8362	1978	5682	446	0	256	0	0
riscv_simple	RV32I PIPE	10272	2587	6910	487	32	256	0	0
riscv_simple	RV32IM UNI	18611	1743	12698	3882	32	256	0	0
riscv_simple	RV32IM MULTI	18740	1984	12608	3891	1	256	0	0
riscv_simple	RV32IM PIPE	20445	2595	13629	3933	32	256	0	0
serv		450	201	241	8	0	0	0	0
picorv32		2683	596	1678	405	0	4	0	0

non RISC-V:

core name	options	total cells	flip-flops	LUT4	CARRY	TBUF	RAM40_4K	mem	memory bits
zpu_avalanche		1651	272	1307	72	0	0	0	0
MiniCPU_SerPCU		157	51	106	0	0	0	0	0
MiniCPU_SerALU		176	49	127	0	0	0	0	0
		333	100						
MCPU		79	24	35	12	8	0	0	0
6502 (nestang)		936	123	754	59	0	0	0	0
cray1		37355	8510	25769	3057	0	19	0	0 9 hard_v_reg
j0 (gameduino)		942	67	782	91	0	2	0	0
j0	no mult (16 stk)	590	65	445	78	0	2	0	0
ukp (nestang)		494	151	272	68	2	1	0	0

gowin

Result of synth_gowin in Yosys for various softcores

core name	options	total cells	flip-flops	MISC	ALU	LUT1	LUT2	LUT3	LUT4	MLUT5	MLUT6	MLUT7	MLUT8
darkriscv		9032	142	176	355	2005	704	651	1838	1904	816	310	75
glacial		753	84	41	55	103	70	104	74	132	52	26	12
riscv_simple	RV32I UNI	32136	1729	547	422	11309	809	1314	3494	7365	3464	1333	350
riscv_simple	RV32I MULTI	17631	1964	515	461	4354	710	860	3785	2984	1315	528	155
riscv_simple	RV32I PIPE	23066	2573	515	470	5695	848	1568	4429	4087	1795	783	303
riscv_simple	RV32IM UNI	94934	1729	547	6156	29777	5345	5656	9321	20555	9879	4353	1616
riscv_simple	RV32IM MULTI	85103	1964	515	6131	25751	4046	5912	10116	16974	8236	3858	1600
riscv_simple	RV32IM PIPE	85506	2581	547	6209	24079	5249	6480	10032	16841	8154	3790	1544
serv		1083	201	207	12	158	53	164	77	130	52	22	7
picorv32		4039	567	411	424	710	169	366	764	394	122	59	21

non RISC-V:

core name	options	total cells	flip-flops	MISC	ALU	LUT1	LUT2	LUT3	LUT4	MLUT5	MLUT6	MLUT7	MLUT8
zpu_avalanche		3930	272	104	78	953	156	331	613	861	342	154	66
MiniCPU_SerPCU		167	51	19	0	6	12	40	26	11	2	0	0
MiniCPU_SerALU		407	49	14	0	110	11	48	48	81	36	7	3
		574	100										
MCPU		187	24	20	15	46	1	10	33	27	10	1	0
6502 (nestang)		1833	123	41	68	358	141	223	378	339	111	39	12
cray1		0 D latches not supported											
j0 (gameduino)		2064	35	78	112	236	95	171	743	382	144	49	3
j0	no mult (16 stk)	4250	31	78	91	1745	89	99	230	1036	506	240	97
ukp (nestang)		986	151	29	89	267	34	47	129	167	50	20	3

gowin

memories	mem bits
56	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
0	0
32	0

memories	mem bits
0	0
0	0
0	0
0	0
0	0
16	
8	
0	0

cyclonev

Result of synth_intel_alm -family cyclonev in Yosys for various softcores

core name	options	total cells	flip-flops	MISC	ALU	LUT2	LUT3	LUT4	LUT5	LUT6	M18x18	M27x27	memories
darkriscv		1891	162	178	365	83	226	302	249	197	1	0	128
glacial		328	84	42	58	31	41	10	44	18	0	0	0
riscv_simple	RV32I UNI	6795	1731	483	507	155	243	1450	1480	618	0	0	128
riscv_simple	RV32I MULTI	7157	1966	456	581	207	222	1477	1687	433	0	0	128
riscv_simple	RV32I PIPE	8428	2627	487	573	208	406	1528	1923	548	0	0	128
riscv_simple	RV32IM UNI	10419	1731	485	701	830	995	2207	2164	1174	2	2	128
riscv_simple	RV32IM MULTI	10620	1966	457	709	794	955	2262	2248	1097	2	2	128
riscv_simple	RV32IM PIPE	12127	2635	488	739	971	1160	2416	2484	1102	2	2	128
serv		641	204	209	27	30	94	25	29	23	0	0	0
picorv32		2322	608	413	431	54	87	185	444	98	0	0	2

non RISC-V:

core name	options	total cells	flip-flops	MISC	ALU	LUT2	LUT3	LUT4	LUT5	LUT6	M18x18	M27x27	memories
zpu_avalanche		1331	272	109	79	91	122	153	315	190	0	0	0
MiniCPU_SerPCU		139	51	22	0	5	30	12	8	11	0	0	0
MiniCPU_SerALU		167	49	14	0	3	45	12	24	20	0	0	0
		306	100										
MCPU		93	24	28	15	1	5	10	1	9	0	0	0
6502 (nestang)		704	123	41	68	40	83	91	154	104	0	0	0
cray1		0 D latches not supported											
j0 (gameduino)		558	67	77	100	19	65	84	86	57	1	0	2
j0	no mult (16 stk)	540	39	77	95	45	37	84	72	59	0	0	32
ukp (nestang)		561	155	31	100	28	25	60	87	75	0	0	0

cyclonev

mem bits

mlab

m10k

m10k

m10k

m10k

m10k

m10k

m10k

mem bits

m10k

mlab