SGS-THOMSON
MICROELECTRONICS

SEA OF GATES - CONTINUOUS ARRAYS

ISB 24000 SERIES

0.7 micron, triple level metal HCMOS Technology. Typical delay 0.25ns for 2-input NAND gate

GENERAL FEATURES

Process Technology	Complexity	Delay (ns)	Gate Power (μw/Gate/MHz)	Single Output Drive (mA)	I/O Interface	Module Generators
0.7 μm, triple level metal	18 generics - 3,100 to 216,000 usable gates	0.25 typ. for 2-Input NAND gate, ND2P	6	up to 24	TTL, CMOS, EISA, ISA, MCA, SCSI	SPRAM 8 Kbits max DPRAM 4 Kbits max ROM 16 Kbit max

PRODUCT RANGE

Device Name	Internal Cells	Total [1] Gates	Estimated [2] Usable Gates	Total [3] Device Pads	Maximum [4] I/O
ISB24004	10,368	4,147	3,110	56	48
ISB24005	14,112	5,644	4,233	64	56
ISB24007	18,432	7,372	5,529	72	64
ISB24013	34,848	13,939	10,454	96	88
ISB24019	48,672	19,468	14,601	112	104
ISB24025	64,800	25,920	19,440	128	120
ISB24037	93,312	37,324	27,993	152	144
ISB24046	115,200	46,080	34,560	168	160
ISB24060	152,352	60,940	45,705	192	184
ISB24077	194,688	77,875	58,406	216	208
ISB24103	259,200	103,680	77,760	248	240
ISB24118	294,912	117,964	88,473	264	256
ISB24133	332,928	133,171	99,878	280	272
ISB24157	394,272	157,708	118,281	304	296
ISB24166	415,872	166,348	124,761	312	304
ISB24203	508,032	203,212	152,409	344	336
ISB24254	636,192	254,476	190,857	384	376
ISB24288	720,000	288,000	216,000	408	400

Notes:
1. A factor of 2.5 is used to derive gate complexity from internal cells.
2. Routing efficiency of 75% is quoted. This number will vary depending on the design.
3. Eight corner pads are dedicated V_{DD}/V_{SS} pads. I/O pads may be reconfigured for additional V_{DD}/V_{SS} pads.
4. Maximum I/O = Total device pads less dedicated power pads.

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STANDARD PACKAGE RANGE

Type	Package	Pins
ISB24004	PLCC PQFP TQFP	20 to 44 64 64, 80
ISB24005	PLCC PQFP TQFP	20 to 44 64 64, 80
ISB24007	SOIC PLCC PQFP TQFP	18 to 28 20 to 44 64 64, 80
ISB24013	PLCC PQFP TQFP	28 to 68 44 to 128 64 to 100
ISB24019	PLCC PQFP TQFP	28 to 84 44 to 128 64 to 100
ISB24025	PLCC PQFP TQFP	28 to 84 44 to 128 64 to 100
ISB24037	PLCC PQFP TQFP	28 to 84 44 to 128 64 to 100
ISB24046	PLCC PQFP TQFP	44 to 84 44 to 144 64 to 100
ISB24060	PLCC PQFP TQFP	44 to 84 64 to 144 80, 100, 144

Type	Package	Pins
ISB24077	BGA PLCC PQFP TQFP	256 44 to 84 64 to 208 100, 144, 176
ISB24103	BGA PLCC PQFP TQFP	256 68, 84 64 to 208 100, 144, 176
ISB24118	BGA PLCC PQFP TQFP	256 68, 84 64 to 208 100, 144, 176
ISB24133	BGA PLCC PQFP TQFP	256 68, 84 144 to 208 144, 176
ISB24157	BGA PQFP TQFP	256 144 to 208 176
ISB24166	BGA PQFP TQFP	256, 352 144 to 208 176
ISB24203	BGA PQFP TQFP	256, 352 144 to 208 176
ISB24254	BGA PQFP	256, 352 208
ISB24288	BGA PQFP	352 144, 160, 208