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AMI ® Semiconductors

Gate Arrays

Semi-finished digital chips provide high performance for medium volume production with quick development

- 1-micron triple or double metal and 1.25-micron double metal CMOS processes.
- Basic Logic, interface, MSI, and 7400 functions.
- Compatible with Gould AMI's megacell library.
- Custom RAMs available in both 1-micron and 1.25-micron processes.
- Artificial Intelligence Software Services available for netlist translation, gate reduction, clock-tree insertion, netlist analysis, and NETSCAN technology.

Gate arrays provide solutions for a variety of high performance digital applications--at a low development cost and quick design time. If you need fast turn production runs, gate arrays may be the right ASIC for you.

Gate arrays are semi-finished digital circuits that contain patterns of uncommitted transistors pre-fabricated on silicon base wafers. Using any major CAE workstation at your own facility, you can use Gould AMI libraries to customize your design as a network of logic functions. NETRANS is also available for conversion of any ASIC supplier's netlist to Gould AMI's bolt netlist format. With only the metal layers to fabricate, gate array development time is fast—typically four weeks.

Gould AMI's arrays are fabricated in a double (or triple) metal, single poly, twin-tub CMOS process. They offer the CMOS advantages of low power dissipation, broad power supply voltage range (2.5 to 5.5 Volts), and high noise immunity.

Over 600 macros in the process families include:

Basic functions: Sequential and combinational logic.

Interface functions: TTL and CMOS level inputs, TTL and CMOS Schmitt trigger inputs, pull-ups and pull-downs, TTL and CMOS output drivers, and output drivers with a controlled slew rate for lower noise operation.

MSI functions: Counters, multiplexers, decoders, adders.

7400 functions: Over 160 TTL compatible functions.

Digital megacells: Megacells and compilers include 82xx, 29xx, core processors, RAM, FIFOs, DSP megacells, and many more.

1-micron Gate Arrays

Array	Useable Gates		Programmable Pads		Power Pins
	Triple-metal	Double-metal	TAB	Wire-bond	
GD200K	150,000	100,000	492	360	12
GD100K	75,000	50,000	348	252	12
GD 70K	49,000	35,000	288	208	12
GD 50K	35,000	25,000	256	184	12
GD 35K	24,500	17,500	208	152	12
GD 25K	17,500	12,500	180	128	12
GD 20K	14,000	10,000	156	112	12
GD 16K	11,200	8,000	140	100	12
GD 12K	8,400	6,000	120	84	12
GD 9K	6,300	4,500	100	72	12
GD 7K	4,900	3,500	92	64	12
GD 5K	3,500	2,500	76	52	12
GD 3K	2,100	1,500	56	40	12