HIGH TEMPERATURE GATE ARRAYS

HT2000 FAMILY

FEATURES

- Specified -55 to +225°C, Operation to +300°C
- Fabricated with HTMOS™ 0.65 µm Process
- 7K or 160K Available Gates (Raw)
- CMOS Compatible I/O
- Full Complement of Screening Flows
- Supports System Speeds to 20 MHz

APPLICATIONS

- Down-Hole Oil Well
- Avionics
- Turbine Engine Control
- Industrial Process Control
- Nuclear Reactor
- Electric Power Conversion
- Heavy Duty Internal Combustion Engines

GENERAL DESCRIPTION

The HT2000 family of gate arrays are high temperature sea-of-transistor gate arrays, fabricated on Honeywell's 0.65 µm HTMOS™ process. The high density and performance characteristics of the HTMOS process make it possible for device operation to 20 MHz over the full temperature range. Typically, parts will operate up to +300°C for a year, with derated performance.

Designers can choose from a wide variety of I/O types. Output buffer options include 8 drive strengths, CMOS levels, IEEE 1149.1 boundary scan, pull-up/pull-down resistors, and three-state capability. Input buffers can be selected with CMOS/Schmitt trigger levels, IEEE 1149.1 boundary scan and pull-up/pull-down resistors. Bi-directional buffers are also available.

Each HT2000 design is founded on our HTMOS ASIC library of SSI and MSI logic elements, Flexible Supercells™ and selectable I/O pads. The gate arrays feature a global clock network capable of handling multiple clock signals with low clock skew between registers.

The VDS Toolkit supports industry standard platforms including Mentor Graphics, and VHDL simulation. Honeywell can perform design translations to the HT2000 arrays from other CAD platforms. Our synthesis capabilities allow customers to use familiar CAD tools and libraries, and have Honeywell map the design to HTMOS library components. These tools provide the necessary guidance to achieve first pass design success.

The HT2000 family of gate arrays is the right choice for your high temperature applications demanding high density and performance. Find out more on how Honeywell's HTMOS™ products can meet your needs.

For technical assistance, please contact our Customer Service Department at 612-954-2888.

HT2000 Characteristics	HT2007	HT2160
Total Core Gate Count	7K	160K
Usable Gate Count	5.5K	91K
Maximum Die I/O	14	160
Maximum Package Signal I/O (1)	14	160
Typical Delay	1400 ps at 5.0V and 225° C	
Selectable I/O	Driver, Receiver, Bi-Directional, Three-State	
I/O Interface Levels	CMOS	
Typical Power Dissipation, µW/Gate/MHz	2.60 @ 5.0V	
Operating Temperature	Specified -55° C to 225° C	
Process Technology	HTMOS™	
Minimum Geometry	0.65 µm L_{eff} / 0.8 µm drawn	

(1) Design and package dependent, assumes 208-pin grid array

To learn more about Honeywell Solid State Electronics Center, visit our web site at http://www.ssec.honeywell.com

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