High Temperature Gate Arrays
HT2000 Family

The HT2000 gate array family is a high temperature, sea-of-transistor gate array, fabricated on Honeywell's 0.8 µm HTMOS™ process. The high density and performance characteristics of the HTMOS enable device operation to 25 MHz over the full temperature range.

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

Each HT2000 design is founded on our HTMOS ASIC library of logic elements, gate array RAMs, 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 Verilog and VHDL simulation. Honeywell can perform design translations to the HT2000 arrays from other CAD platforms. Honeywell's 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 about how Honeywell's HTMOS™ products can meet your needs.

APPLICATIONS:

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

FEATURES & BENEFITS

▶ Specified -55°C to +225°C,
  Survivability to +300°C

▶ High Reliability, 5 year lifetime at +225°C

▶ Fabricated with HTMOS™ 0.8 µm Process

▶ Full Complement of Screening Flows

▶ 40K to 390K Available Gates (Raw)

▶ Supports System Speeds to 25 MHz

▶ CMOS and TTL Compatible I/O

HT2000

HT2000 Characteristics	HT2040	HT2080	HT2160	HT2300	HT2400
Total Core Gate Count	40K	85K	160K	295K	390K
Usable Gate Count	27K	52K	91K	156K	200K
Maximum Die I/O	128	176	240	336	388
Maximum Package Signal I/O[1]	72	172	240	320	320
Typical Delay	1400 ps at 5.0V and 225ºC				
Selectable I/O	Driver, Receiver, Bi-Directional, Three-State				
I/O Interface Levels	CMOS				
Typical Power Dissipation, µw/Gate/MHz	2.60 at 5.0V				
Operating Temperature	Specified at -55 to 225ºC				
Process Technology	HTMOS™				
Minimum Geometry	0.8 µm Gate Length				

[1] Design and package dependent, assumes 208-pin grid array.

ORDERING INFORMATION
Contact the Factory at 1-800-323-8295.
For technical assistance, please contact 1-800-323-8295.

Find out more
For more information on Honeywell's High Temperature Electronics visit us online at www.honeywell.com/hightemp, or contact us at 800-323-8295 or 763-954-2474.