VLSI TECHNOLOGY, INC.

PRELIMINARY

VL82C386

TOPCAT 386DX CHIP SET

FEATURES

- Three chip PC/AT-compatible chip set capable of use in 386DX-based systems up to 33 MHz - VL82C330 System Controller, VL82C331 ISA Bus Controller, VL82C332 Data Buffer
- Two 128-pin and one 160-pin (VL82C331) quad flatpacks, 1.0- and 1.5-micron CMOS
- Memory control of one to four banks of 32-bit DRAM using 256K, 1M, or 4M components allowing 64 Mbytes on system board
- Page mode DRAM operation on any number of banks
- Two/four-way interleaving or direct access on system board memory
- Programmable option for block or word interleave
- Programmable DRAM timing parameters
- Remap option allows logical reordering of system board DRAM banks
- System board refresh optionally decoupled from slot bus refresh
- Staggered refresh minimizes power supply load variations
- Built-in "sleep" mode features, including use of slow refresh DRAMS in power critical operations
- Hardware supports full LIM EMS 4.0® spec over entire 64 Mbyte memory map
- DMA expanded to allow transfers over 64 Mrange
- Shadow RAM support in 16K increments over entire 640K to 1M range
- Support for 387DX and Weitek 3167 numerical coprocessors allows use of either or both
- Coprocessor software reset can be disabled
- Internal switching and programmable CLK2 support for PC/AT-compatible and "turbo" modes
- Programmable drive reduces the need for external buffering on DRAM and slot bus interface signals
- ISA Bus Control of 386DX-based PC/AT-compatibles. Capable of asynchronous or synchronous bus operation to 16 MHz
- Compatible with Lotus 1-2-3® version 3.0 in 1M systems
- Bus "quiet" mode assures that slot bus signal lines are driven only during slot accesses
- Integrated Peripheral Functions:

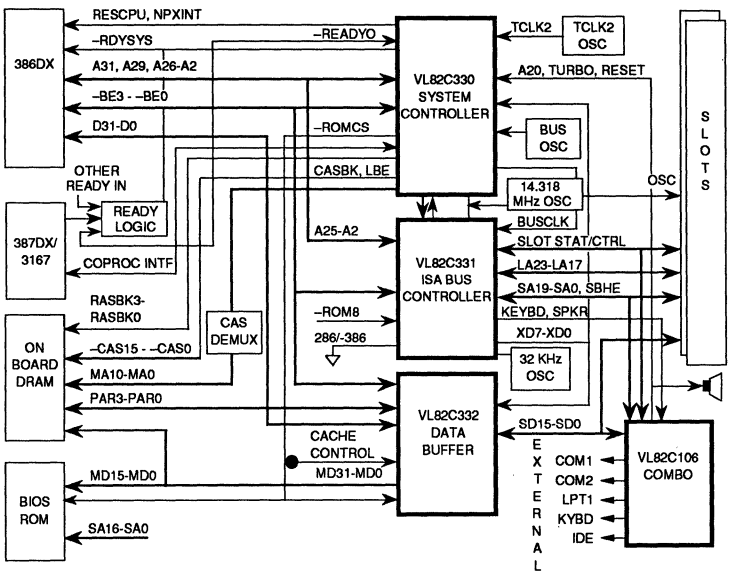
  Two 82C37A DMA Controllers with extended 74LS612 Page Register

  Two 82C59A Interrupt Controllers

  One 82C54 Timer

  One 82C018 Real Time Clock
- Additional 64 bytes of battery backed RAM in RTC provides for non-volatile storage of VL82C386 chip set configuration data and user specific information
- Supports 8- or 16-bit wide BIOS ROMs
- Cache support for posted writes
- System Memory on MD or D bus in non-cached systems
- Separate parity generation/checkers for high speed operation
- Internal I/O programmable for 10- or 16-bit decode
- Three-state control pins added for board level testability

BLOCK DIAGRAM



ORDER INFORMATION

VL82C386DX Chip Set

Part Number	Package
1 - VL82C330-FC	Plastic Flatpack
1 - VL82C331-FC	Plastic Flatpack
1 - VL82C332-FC	Plastic Flatpack

Note: Operating temperature range is 0°C to +70°C.

Lotus 1-2-3® is a registerd trademark of IBM Corp.

LIM EMS 4.0® is a registered trademark of Lotus Development Corp., Intel Corp. and Microsoft Corp.