High Integration Boot Block 2-, 4- and 8-Mbit Family

- 3.3V SmartVoltage Technology
- 2-, 4- and 8-Mbit X8 or X8/X16 JEDEC-Standard Configuration
- Footprint Upgradable From 2 Mbit Through 8 Mbit
- SmartVoltage Technology
  - – Voltage Flexibility
  - – 3.3V Low Power Read
  - – Superior Single 5V Read/Write Performance
  - – Future 2.7V Read Option
- 60% Faster Programming Performance Over 5V Only
  - – Lower Throughput Time
  - – Lower Manufacturing Costs
- High Performance Read
  - – 60ns at 5V
  - – 110ns at 3.3V
- Superior Byte Write Performance For EEPROM Emulation
- Absolute Hardware Write Protection With $V_{pp}=0$
- Automated Algorithm For User Transparent Erase/Program
- Reset and Deep-Powerdown Mode (0.2µA Typical)
- Widely-Sourced Packaging and Architecture
- Optimized Memory Block Architecture
  - – Ideal For ROM, EEPROM and Bulk Flash EPROM Integration For Embedded Application

Intel's advanced SmartVoltage 2-, 4- and 8-Mbit flash memories offer users optimal benefits in a mid-density flash. Using a cost-effective and highly advanced process technology, the SmartVoltage 2-, 4- and 8-Mbit products offer new capabilities in establishing a standard in flash memory. You can choose among read/write voltages, X8 or X8/X16 data bus, hardware reset, high performance read access, transparent automated erase/program algorithms and absolute write protection.

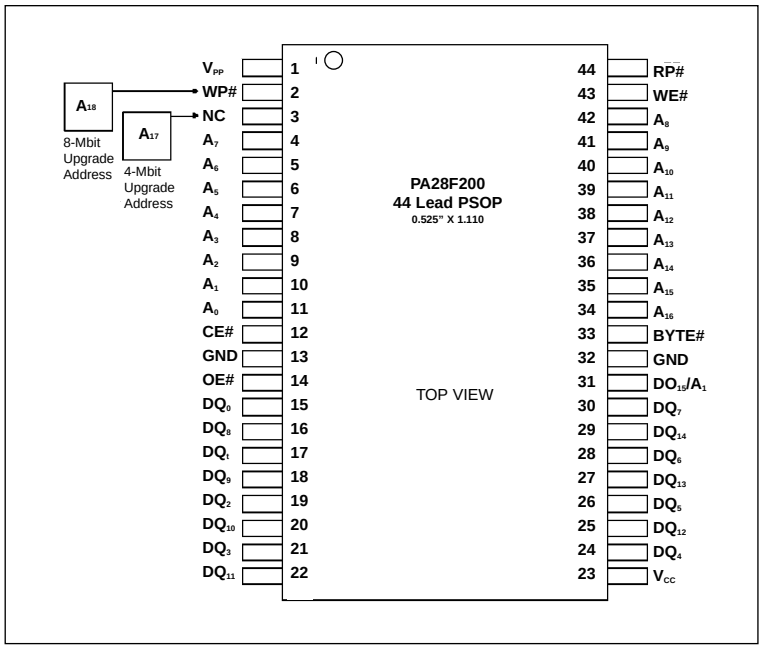
The SmartVoltage 2-, 4- and 8-Mbit memory architecture is ideal for integrating boot ROM, EEPROM-like parameter storage and bulk flash code storage–with optimized memory blocks for each need. Designers can incorporate this tuned architecture in a selection of footprint compatible densities, including 2 Mbit, 4 Mbit and 8 Mbit (mid-95).

The industry today demands flash memory products that have advanced features, are cost effective, and deliver flexibility and ease of use. Intel delivers these capabilities in 40-pin and greater TSOP and PSOP packages. Plus, only Intel offers voltage options for standard 5V read, down to 3.3V read for low-power current and future needs in one product offering at no price premium. In addition, Intel offers high-throughput efficiency in manufacturing with 12V programming, and simplicity of board design with 5V writes.

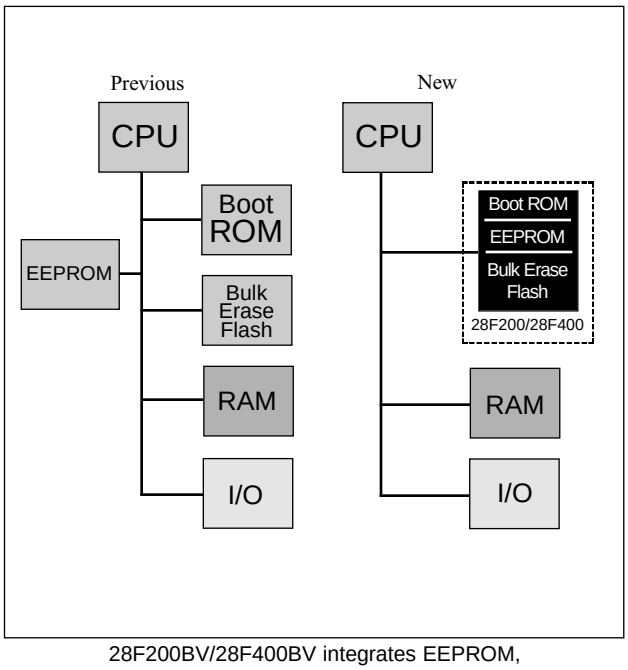
Intel's SmartVoltage 2-, 4- and 8-Mbit provide high integration for space-constrained embedded applications, low voltage for portable applications, and absolute block locking for easy system recovery in PC BIOS applications.

CONTACT:
Local Intel Sales Office
WWW: http://www.intel.com/embedded/

Features	Benefits
– 3.3V low-power read option	– Reduces system power consumption, increased thermal reliability
– 5V single voltage mode	– Easier board design
– 60% faster programming than restrictive 5V-only products	– Lower volume programming and manufacturing costs as a result of higher throughput
– One socket for 2-, 4-, 8-Mbit	– No board changes for code expansion
– Widely-sourced packaging and architecture	– Multiple supply sources and future protection from obsolescence
– Backward compatibility	– Seamless transition from current 12V write/5V read Flash products
– EEPROM emulation	– Integrate EEPROM functionality on chip in selected applications
– Automated algorithm for erase/write	– Minimal software overhead and "learning curve" for Intel Flash memory



Pinout Diagram for 44-lead PSOP
(40-, 48-, 56-lead TSOP also available)



28F200BV/28F400BV integrates EEPROM,
Boot ROM and Bulk Erase Flash