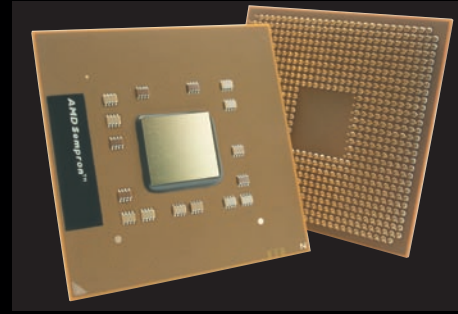


Mobile AMD Sempron™ processors for embedded applications



Product overview

Get the smart combination of performance and value with solutions featuring the Mobile AMD Sempron™ processor. The Mobile AMD Sempron processor offers the performance and security needed for the evolving requirements of today's embedded solutions. It is the only mobile processor in its class to feature advanced power-saving technology from AMD, reducing power consumption without compromising performance. The Mobile AMD Sempron processor is packaged in a small-footprint, socket S1 compatible, lidless 638 pin micro PGA. This enables small form factor and rugged designs to be created with optimal thermal dissipation utilizing a socket suitable for up to 50G shock and 7G vibration. The Mobile AMD Sempron is well suited for designs in the gaming, medical, transportation, industrial control, communications, and retail markets with specific models supporting extended longevity.*

Product features and benefits

- **AMD PowerNow™ technology**, the first dynamic power management technology in the industry, delivers performance on demand and can reduce the TDP of the already low-power Mobile AMD Sempron by up to 56%, with TDP options starting at 8W
- Featuring AMD's innovative **Direct Connect Architecture** for leading-edge performance by providing separate, dedicated high-speed links between processor and memory, processor and I/O, and I/O to memory, to enable predictability in real-time applications
- **HyperTransport™ technology** boosts overall system performance through a dedicated high-speed, low-latency I/O interface
- **AMD Digital Media Xpress™** for compatibility with the largest installed base of multimedia-enhanced software, taking 3-D and graphics to new levels for medical imaging, gaming, kiosk, and point-of-sale applications
- **Simultaneous 32- and 64-bit performance**, designed to be compatible with the next generation 64-bit Windows® operating system, Microsoft® Windows Vista®
- Socket and electrically compatible with dual-core **Mobile AMD Turion™ 64 X2 processor** to enable single- or dual-core solutions with the same platform providing a unique scalable power and performance solution
- **Enhanced Virus Protection** to increase the reliability of your network-connected applications**

Rich choices

- Offering rich choices for embedded solutions of all kinds by enabling low power, scalable performance, and feature differentiation.
- Renowned industry innovator AMD collaborates with industry-leading technology companies, including Microsoft, Sun, IBM, HP, and many other innovative technology leaders, to bring you powerful embedded solutions with the exceptional performance and low power you expect
 - Designers can select extended longevity chipsets from AMD, Broadcom, SiS, and many other commercially available industry-standard chipsets, allowing them to choose the best in connectivity, graphics, and security to meet their application needs
 - AMD is an industry leader that is dedicated to the real-world needs of our customers, enabling you to get the right platform to market
- AMD has long been recognized by many of the industry's top publications, organizations, and high-tech experts as an innovative leader.

* This document generally references all Rev F and Rev G Mobile AMD Sempron processors available in socket S1. Please refer to the AMD Embedded Product Selection Guide for specific Mobile AMD Sempron models with extended availability.

**Enhanced Virus Protection (EVP) is only enabled by certain operating systems, including the current versions of Microsoft® Windows®, Linux®, Solaris, and BSD Unix. After properly installing the appropriate operating system release, users must enable the protection of their applications and associated files from buffer overrun attacks. Consult your OS documentation for information on enabling EVP. Contact your application software vendor for information regarding use of the application in conjunction with EVP. AMD strongly recommends that users continue to include third-party antivirus software as part of their security strategy.

Mobile AMD Sempron™ Processor Key Architecture Features

The AMD64 core provides leading-edge 32-bit performance, seamless 32- to 64-bit migration, and investment protection

- AMD64 technology features uncompromising 64- and 32-bit performance
- Vastly expands memory addressability with 40-bit physical addresses, 48-bit virtual addresses
- Doubles the number of internal registers with eight additional (16 total) 64-bit integer registers and eight additional (16 total) 128-bit SSE/SSE2/SSE3 registers
- AMD Digital Media Xpress™ provides support for SSE, SSE2, SSE3, and MMX™ instructions

Integrated DDR2 memory controller

- Designed to boost performance by directly connecting the processor to the memory, thus significantly reducing memory latency
- Supports 2nd generation DDR2 memory which has been designed to improve overall memory performance through increased data rates and larger densities
- Supports industry-standard, widely available PC2-3200 (DDR2-400), PC2-4200 (DDR2-533), PC2-4300 (DDR2-533), and PC2-5300 (DDR2-667) unbuffered SO-DIMMs
- Dual channel, 128-bit interface
- Up to 10.7GB/s memory bandwidth

AMD PowerNow!™ technology

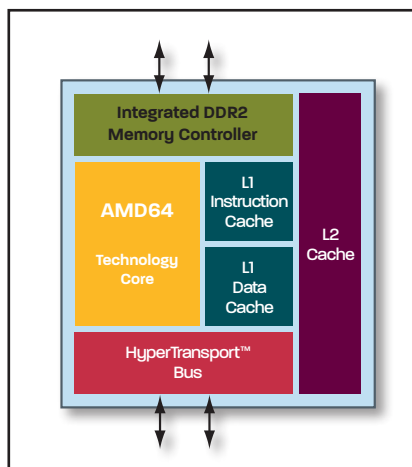
- Reduces power consumption by dynamically switching the performance states (processor core voltage and operating frequency) based on processor performance requirements
- Allows the processor to dissipate less heat under normal operating conditions
- Provides performance on demand when required by the application
- Operates automatically in the background

Ultra low latency HyperTransport™ technology for high-speed I/O communication

- HyperTransport technology helps increase overall system performance by helping to reduce traditional system bottlenecks, increase I/O bandwidth, and reduce I/O latency to improve overall system performance
- One 16-bit link supporting up to 800MHz
- Up to 6.4GB/s peak HyperTransport I/O bandwidth

Large high-performance on-chip cache

- 64KB Level 1 instruction cache
- 64KB Level 1 data cache
- Up to 512KB Level 2 cache



www.amd.com/embedded

ABOUT AMD

AMD (NYSE:AMD) designs and produces innovative microprocessors and low-power processor solutions for the computer, communications, and consumer electronics industries. AMD is dedicated to delivering standards-based, customer-focused solutions for technology users, ranging from enterprises and governments to individual consumers.

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