



Design Without Compromise

Product overview

The AMD Geode™ LX 700@0.8W processor,* the AMD Geode LX 800@0.9W processor,** and the new AMD Geode LX 900@1.5W processor*** bring x86 power and versatility to applications for entertainment, business, education, and embedded markets. The AMD Geode LX 900@1.5W processor is the most advanced Geode LX processor for demanding embedded applications. This level of capability may not be needed for every application, but when premium performance is needed, the AMD Geode LX 900@1.5W processor delivers.

The AMD Geode LX processor's integrated, innovative architecture is one of the most energy-efficient x86 solutions in the industry and can lead to longer battery life and enable small form-factor designs.

Design without limits

The AMD Geode LX processor family offers new levels of performance and power versatility in an x86-based embedded processor. The AMD Geode LX 900@1.5W processor operates at a maximum power of 5.1W (TDP). The AMD Geode LX 800@0.9W processor operates at a maximum power of 3.6W (TDP) and 1.8W is typical at 500MHz, while the AMD Geode LX 700@0.8W consumes a maximum power of 3.1W (TDP) and 1.3W typically at 433MHz.

These devices are exceptional for such applications as thin clients, interactive set-top boxes, single-board computers, Personal Access Devices (PADs), mobile Internet, and entertainment. Designers can now focus on developing end products that efficiently meet consumer needs with far fewer limits imposed by software porting or compatibility.

The AMD Geode LX processors deliver the low-power x86 performance to design innovative and creative new products without compromise. Coupled with the AMD Geode CS5536 companion device, the combined chipset, which operates at 1.9W typical at 433MHz, 2.4W typical at 500MHz, and 3.2W typical at 600MHz offers designers a complete set of features that can deliver full desktop functionality to embedded and portable devices.

Capabilities include:

- Natively run all Windows®- and Linux®- based applications
- Full Internet browser experience on portable devices
- No software porting needed – programs run without modification
- Access to the full universe of 32-bit x86 software
- Support for any type of connectivity

*This processor operates at 433MHz.

**This processor operates at 500MHz.

***This processor operates at 600MHz.

Model numbers reflect performance as described here:

<http://www.amd.com/connectivitysolutions/geodelxbenchmark>.

AMD Geode™ LX Processor Family



CPU	Frequency	Typical Power	TDP [†]
LX 700	433MHz	1.3W	3.1W
LX 800	500MHz	1.8W	3.6W
LX 900	600MHz	2.6W	5.1W

[†]Unterminated memory topology. See datasheet for terminated memory TDP.

x86 Everywhere: Changing the way developers think about application design

The AMD commitment to the x86 marketplace – with a range of high-performance products like AMD Geode LX processors – gives OEMs an easy and effective way to achieve product differentiation and shorten time-to-market cycles.

The AMD Geode LX processors are the next step in helping AMD redefine the way x86 processors address the growing need for versatile power and performance for a variety of consumer devices. It is the latest example of AMD's commitment to make x86-based technology available for a variety of applications – from high-end servers to low-power embedded applications.

Processor functional blocks

- CPU Core
- GeodeLink™ Control Processor
- GeodeLink Interface Units
- GeodeLink Memory Controller
- Graphics Processor
- Display Controller
- Video Processor
- Video Input Port
- GeodeLink PCI Bridge
- Security Block

AMD Geode™ LX Processor Family

Technical specifications

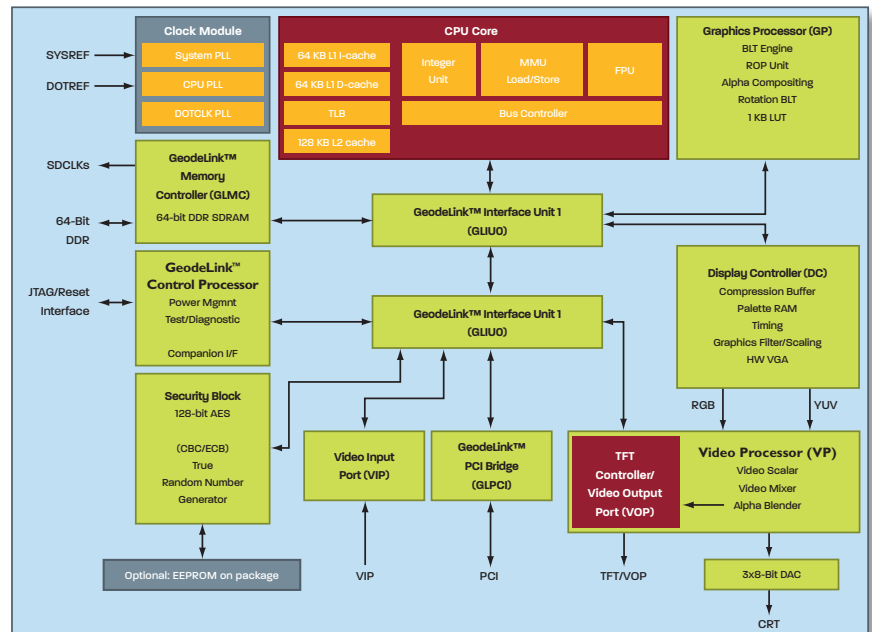
- x86/x87-compatible core
- Processor Frequency
 - LX 900, up to 600MHz
 - LX 800, up to 500MHz
 - LX 700, up to 433MHz
- 64K I/64K D L1 cache and 128K L2 cache
- Split I/D cache/TLB (Translation Look-Aside Buffer)
- 64-bit DDR Memory interface up to 600MHz (LX 900), up to 400MHz (LX 800), and up to 333MHz (LX 700)
- Integrated FPU that supports the Intel MMX™ and AMD 3DNow!™ Technology instruction sets
- 9 GB/s internal GeodeLink™ Interface Unit (GLIU)
- Security Block
 - 128-bit AES (CBC/ECB)
 - True Random Number Generator
- High-resolution CRT and TFT outputs (simultaneous operation)
 - Support for High Definition (HD) and Standard Definition (SD) standards
 - Support 1920x1440 in CRT mode and 1600x1200 in TFT mode
- VESA 1.1 and 2.0 VIP/VDA support
- 0.13 micron process
- 481-terminal PBGA (Plastic Ball Grid Array) with internal heatspreader

Power management

- 2.6W Typical (5.1W TDP) @ 600MHz
- 1.8W Typical (3.9W TDP) @ 500MHz
- 1.3W Typical (3.1W TDP) @ 433MHz
- GeodeLink active hardware power management
- Hardware support for standard ACPI software power management
- I/O companion SUSP#/SUSPA# power controls
- Lower power I/O
- Wakeup on SMI/INTR
- Optional In-package 2KBit EEPROM

Ordering information

- OPN: ALXG900EEYJ2VH
ALXD800EEXJCVC
ALXD800EEXJCVD
ALXC700EETHCVC
ALXC700EETHCVD
ALXD800EEXJ2VC
ALXD800EEXJ2VD
ALXC700EETH2VC
ALXC700EETH2VD



For more information,
please visit www.amd.com/geodelx900

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.

www.amd.com

One AMD Place
P.O. Box 3453

Sunnyvale, CA 94088-3453, USA
Tel: 408-749-4000 or 800-538-8450
TWX: 910-339-9280
TELEX: 34-6306

Technical Support

USA & Canada: 800-222-9323, Opt 2 or 408-749-5703
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USA & Canada E-mail: hw.support@amd.com

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Argentina: 0800-333-0219
Brazil: 0800-557686
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Europe & UK: +44-0-1276-803299
Europe & UK Fax: +44-0-1276-803298
France: 0800-908-621
Germany: +49-89-450-53199
Italy: 800-877224
Europe E-mail: euro.tech@amd.com

China Fax: 86-10-8518-1777
Hong Kong Fax: 852-2956-0588
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