OMAP35x Applications Processors

TEXAS INSTRUMENTS

Product Bulletin

OMAP35x processors inspire new applications with unprecedented performance at handheld power levels

OMAP35x processors are the first to market with the high-performing ARM® Cortex™-A8 core offering 600 MHz for four times performance improvements over today's ARM9 devices. These applications processors offer the industry's best combination of general-purpose, multimedia and graphics processing in any single-chip combination and will allow OEMs to redefine the standards for advanced user interfaces, web browsing, productivity, enhanced graphics and the multimedia experience.

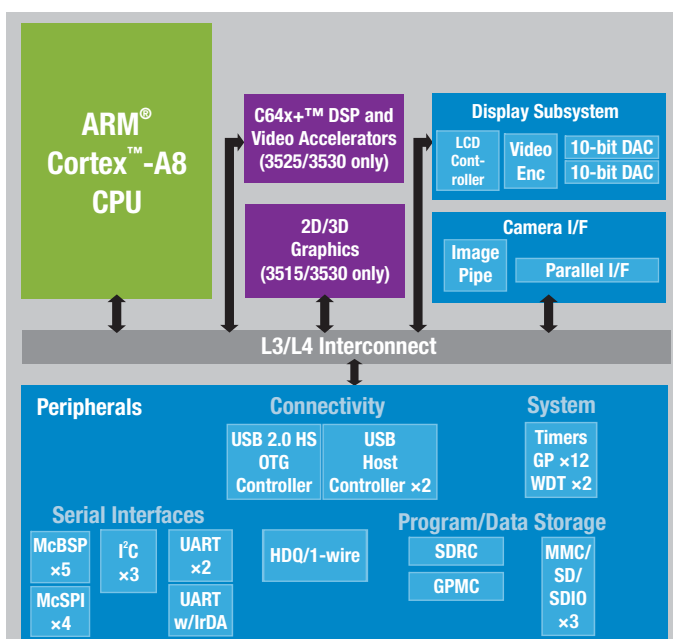▼ *A detailed block diagram of the OMAP35x processor.*

The best general-purpose, multimedia and graphics in any combination

The OMAP™ platform offers four different combinations of the ARM Cortex-A8 core, multimedia rich peripherals, OpenGL® ES 2.0 compatible graphics engine and DaVinci™ technology for applications incorporating video. Rich peripherals and display subsystems allow for seamless connectivity for lower bill of materials cost and reduced board footprint and power usage. With pin-for-pin compatibility, OMAP35x processors minimize development costs by leveraging software and hardware reuse. The OMAP35x generation of processors includes:

- **OMAP3503** – The OMAP3503 processor features a 600-MHz ARM Cortex-A8 along with a rich set of peripherals and memory. With 1200 Dhrystone MIPS performance, the OMAP3503 processor can run operating systems, such as Windows® CE and Linux and will allow faster boot times, web browsing and compelling Java applications.
- **OMAP3515** – The OMAP3515 processor consists of the same peripheral set and

Key Features:
- Applications processors based on the superscalar ARM Cortex-A8 core offering 4× performance over ARM9 devices
- Scalable platform of processors available with multimedia rich peripherals, OpenGL ES 2.0 compatible graphics engine, and DaVinci technology for digital video capabilities
- Optimized laptop-like performance at handheld power levels in a single chip
- Utilize TI's SmartReflex™ technology for even greater power savings
- Evaluation module, Linux board support package and OMAP Developer Network help take designs from concept to production quickly and efficiently

ARM core as the OMAP3503 processor with the addition of the first broadly available, integrated OpenGL ES 2.0 graphics engine. The OMAP3515 processor can achieve PC gaming quality graphics, making it the processor of choice for embedded gaming or simple portable navigation systems. Based on Imagination Technologies PowerVR SGX graphics accelerator, the OMAP3515 processor brings photorealistic graphics to handheld devices.

- **OMAP3525** – The OMAP3525 processor has the same features as the OMAP3503 processor with the addition of integrated DaVinci technology for audio, video and imaging and multimedia acceleration capabilities. Integrated DaVinci technology combined with hardware-enabled video

and image processing as well as dedicated video-centric peripherals allows the OMAP3525 processor to decode up to high-definition video at MPEG-4 SP at 720p, 30 fps.

- **OMAP3530** – The OMAP3530 processor brings all the features of the OMAP3503, 3515 and 3525 processors together on one chip. With an integrated ARM®, DSP, graphics engine, DaVinci™ technology and a rich peripheral set, the OMAP3530 processor brings high performance and power efficiency to productivity and entertainment applications.

TI's SmartReflex™ technologies

TI's SmartReflex Power and Performance Management Technologies reduce power consumption and optimized performance. SmartReflex technologies are a broad range of intelligent and adaptive hardware and software techniques that dynamically control voltage, frequency and power based on device activity, modes of operation and temperature.
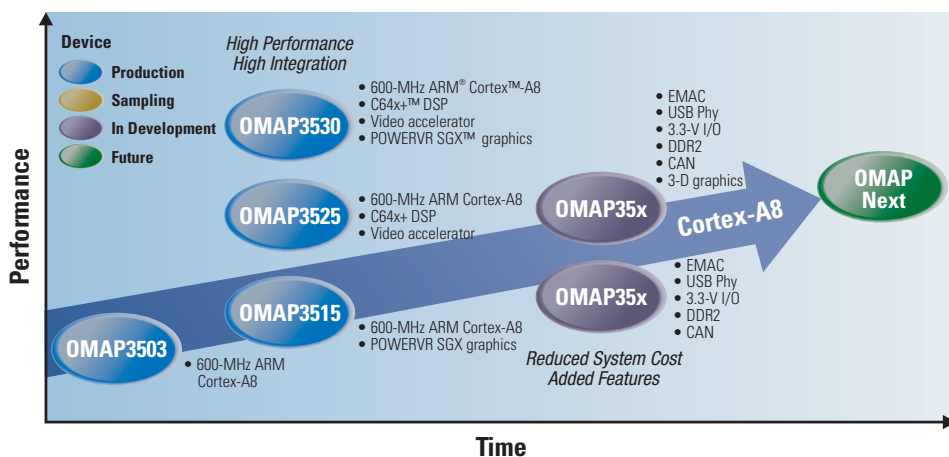
Complementary analog

The TPS62350 is a high-frequency synchronous step-down DC/DC converter optimized for portable applications. Intended for low-power operation, the TPS62350 supports up to 800-mA load current and allows the use of tiny, low-cost inductors and capacitors. The TPS62350 operates at a 3-MHz fixed switching frequency, and enters into a power-save mode operation at light-load currents to maintain high efficiency over the entire load current range. The device's serial interface is compatible with fast/standard and high-speed mode I²C specification, allowing transfers at up to 3.4 Mbps.

Get started today with OMAP35x development tools

A complete set of development tools exist today to allow developers to get started now designing with OMAP35x processors.

- **OMAP35x Evaluation Module (EVM)** – provides all the components needed to begin developing today with the OMAP35x processors. Featuring Linux Board Support Package based on 2.6.22 kernel, the OMAP35x EVM enables developers to start evaluating the capability of the OMAP35x processors and begin software development now. The OMAP35x EVM includes the flexibility to develop application-specific daughter cards to prototype a complete system and the ability to update the processor as new devices become available.

▲ OMAP platform roadmap.

- **OMAP™ Developer Network** – Along with the OMAP35x EVM, developers will have access to the proven and established ecosystem of the OMAP Developer Network. With more than 400 members, the OMAP Developer Network provides additional applications expertise and support to meet the needs of every developer, from GUI to operating systems to networking capabilities.

For more information

Visit **www.ti.com/omap35x** for complete details on the OMAP35x applications processors.

TI Worldwide Technical Support

Internet

TI SC Product Information Center Home Page
support.ti.com

TI Semiconductor KnowledgeBase Home Page
support.ti.com/sc/knowledgebase

Product Information Centers

Americas
Phone	+1(972) 644-5580
Fax	+1(972) 927-6377
Internet/Email	support.ti.com/sc/pic/americas.htm

Europe, Middle East, and Africa
Phone

European Free Call	00800-ASK-TEXAS (00800 275 83927)
International	+49 (0) 8161 80 2121
Russian Support	+7 (4) 95 98 10 701

Note: The European Free Call (Toll Free) number is not active in all countries. If you have technical difficulty calling the free call number, please use the international number above.

Fax	+(49) (0) 8161 80 2045
Internet	support.ti.com/sc/pic/euro.htm

Japan
Fax	International	+81-3-3344-5317
	Domestic	0120-81-0036
Internet/Email	International	support.ti.com/sc/pic/japan.htm
	Domestic	www.tij.co.jp/pic

Asia
Phone

International	+91-80-41381665
Domestic	Toll-Free Number
Australia	1-800-999-084
China	800-820-8682
Hong Kong	800-96-5941
India	1-800-425-7888
Indonesia	001-803-8861-1006
Korea	080-551-2804
Malaysia	1-800-80-3973
New Zealand	0800-446-934
Philippines	1-800-765-7404
Singapore	800-886-1028
Taiwan	0800-006800
Thailand	001-800-886-0010
Fax	+886-2-2378-6808
Email	tiasia@ti.com
	ti-china@ti.com
Internet	support.ti.com/sc/pic/asia.htm

The floating bar, OMAP and SmartReflex are trademarks of Texas Instruments.

All other trademarks are the property of their respective owners.

TEXAS INSTRUMENTS

SPRT457B