32-bit Microprocessors Fact Sheet

MPC5121e

Multi-core processor for automotive applications

Overview

The latest in integrated processors, Freescale's MPC5121e provides a computing platform for both the automotive OEM and aftermarket vendors. The MPC5121e uses an e300 core built on Power Architecture™ technology and is ideal for any embedded solution that requires sophisticated displays, graphics acceleration, rich user interfaces and network connectivity. The MPC5121e multi-core processor offers competitive cost, quality, reliability and exceptional performance.

Applications

- Monitored Telematics
- Rear-seat entertainment systems
- Back-up camera implementations
- Vehicle connectivity
- Navigation
- Advanced driver assistance systems
- Center stack
- Cluster controller
- Digital short range communication (DSRC)

Key Features

- Up to 400 MHz and 760 MIPS performance
- e300 core built on Power Architecture technology
- PowerVR® MBX Lite 2-D/3-D graphics engine
- AXE, a fully programmable, 200 MHz, 32-bit RISC core for real-time acceleration tasks, such as audio
- Integrated display controller supports up to 720p and WXGA resolutions
- ITU 656 interface
- 12 programmable serial controllers (PSC) each capable of UART, I²S, Codec/PCM, AC97, and SPI
- 32 KB instruction cache/32 KB data cache
- SDRAM DDR1/DDR2/mobileDDR memory controller
- Instruction and data memory management unit (MMU)
- Double precision floating point unit (FPU)
- 10/100 Fast Ethernet media access controller (MAC)
- Three I²Cs
- PCI 2.3 interface
- Two USB 2.0 High-Speed On-The-Go (OTG), one with physical layer (PHY)
- Serial Advanced Technology Attachment/ Parallel Advanced Technology Attachment (SATA/PATA)
- Four controller area network (CAN) modules
- 64-channel intelligent DMA I/O controller
- Sony/Philips Digital Interface Format (S/PDIF) serial audio interface
- Secure Digital High-Capacity (SDHC) MMC/ SD/SDIO card host controller

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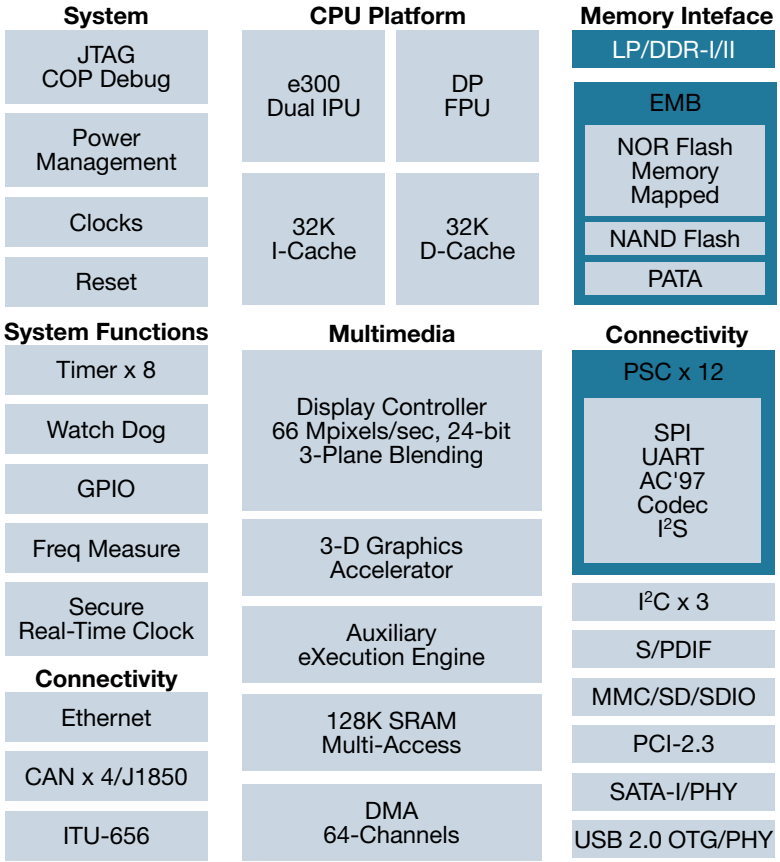
High-Level SoC Integration

The highly integrated MPC5121e is optimal for applications such as automotive center stack systems. An array of I/Os and dedicated cores help reduce system BOM costs while improving performance and functionality.

mobileGT™ Products

The MPC5121e is the latest addition to the mobileGT family of processors. With the consistent application of the e300 CPU core, software support and compatibility already exists, providing for a rich ecosystem of development tools and support. Freescale plans to enable significant levels of firmware and software driver support. This will include popular real-time operating systems from Green Hills, QNX and Wind River (VxWorks, Linux®), as well as open-source Linux solutions.

MPC5121e Block Diagram



Development Tools

Part Number	Description	Pricing
ADS512101	MPC5121e Base Development System	$999.00 USD

MPC5121e Selector Guide

Part Number	Market	Temp. Range	Features	Package	Speed
SPC5121YVY400B	Automotive	-40° C to +85° C	Refer to block diagram	516-pin TE-PBGA, pb-free, RoHS compliant	Up to 400 MHz

Learn More: For current information about 32-bit integrated processors, please visit **www.freescale.com/mobilegt.**

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