

125 MHz, 32-bit
Microcontrollers with
ARM968™ core,
LPC2900 series

ARM968-based microcontrollers with USB, CAN, LIN, 5V ADC and Motor Control

The LPC2900 series of high performance ARM968 microcontrollers feature best-in-class peripheral support such as USB 2.0 Host/OTG/Device, CAN 2.0B and LIN. Operating at speeds up to 125 MHz, they have up to 768 KB of FLASH, up to 56 KB of SRAM, 32-KB I- & D- Tightly Coupled Memories, 16 KB of EEPROM, three A/D converters as well as Motor Control PWM and Quadrature Encoder Interface.

Key Features

ARM968E core

- ▶ 125 MHz operation
- ▶ Vectored Interrupt Controller
- ▶ Power Management Unit
- ▶ Clock Generation Unit
- ▶ Embedded Trace with 8 KB buffer

Memories

- ▶ Up to 768 KB Flash memory
- ▶ Up to 56 KB SRAM (including 8 KB ETB)
- ▶ Up to 32 KB I- & D- Tightly Coupled Memories
- ▶ 16 KB EEPROM
- ▶ External Memory Controller

Serial Peripherals

- ▶ USB 2.0 full-speed device/Host/OTG controller with on-chip PHY and DMA
- ▶ Two LIN 2.0 master controllers
- ▶ Up to four UARTs with baud rate generation, LIN and RS-485 support

- ▶ Two CAN 2.0B controllers
- ▶ Three Q-SPI controllers
- ▶ Two I²C-bus interfaces

Analog Peripherals

- ▶ Two 3.3 V 10-bit Analog-to-Digital Converters with eight channels each
- ▶ One 5V 10-bit Analog-to-Digital Converter with eight channels

Other Peripherals

- ▶ Eight channel General Purpose DMA controller
- ▶ Up to 148 General Purpose I/O
- ▶ Motor control PWM and Quadrature Encoder Interface to support three-phase motors
- ▶ Six 32-bit general purpose timers/counters, Four with 4 Capture and 4 Match per timer

Packages

- ▶ LQFP208
- ▶ LQFP144
- ▶ LQFP100

Applications

- ▶ Industrial drives
- ▶ Pumps
- ▶ HVAC systems
- ▶ Vending and cash machines
- ▶ Motor control

At 125 MHz, the NXP LPC2900 series are the fastest ARM968 microcontrollers available on the market, targeting industrial drives, HVAC systems, vending and cash machines and motor control applications.

As well as offering customers unrivaled operating speeds, the LPC2900 series also offers features such as USB Host/



On-The-Go/Device, 16 KB EEPROM, UARTs with RS485 and LIN support, Quadrature Encoder Interface and Motor Control PWMs.

The LPC2900 series of microcontrollers use the same peripherals as the popular LPC2000 ARM7 family from

NXP, making it an easy upgrade option for customers looking for additional performance in a low cost embedded system.

Additional features include dual CAN interfaces, standard serial buses, plus a sophisticated PWM and two 3.3V and

one 5V analog to digital converters (ADCs) that make the LPC2900 ideal for high-performance and communication-heavy applications. The family comes with up to 768 KB embedded flash memory, 56 KB RAM and 2x32 KB Tightly Coupled Memories (TCM).

Selector Guide

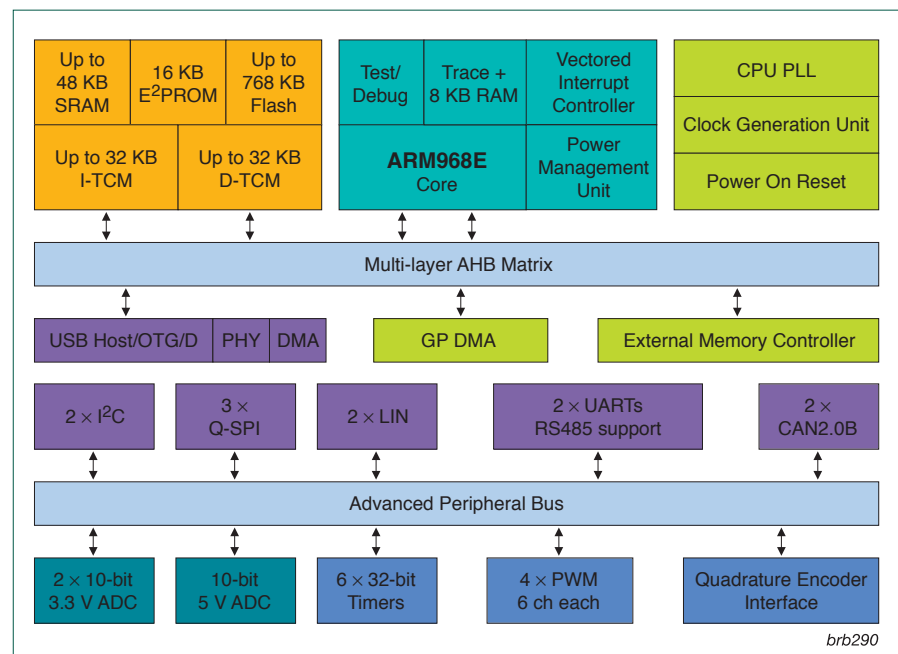
P/N	Flash (KaB)	SRAM (KB)	TCM(KB) I- /D-	EEPROM (KB)	CAN	LIN	UART	SPI	ADC	EMI	USB Device	USB OTG	USB Host	Package
LPC2939	768	56	32/32	16	2	2	4	3	3	Y	Y	Y	Y	LQFP208
LPC2930	0	56	32/32	16	2	2	4	3	3	Y	Y	Y	Y	LQFP208
LPC2929	768	56	32/32	16	2	2	4	3	3	Y	Y	Y	-	LQFP144
LPC2927	512	56	32/32	16	2	2	4	3	3	Y	Y	Y	-	LQFP144
LPC2925	512	40	16/16	16	2	2	4	3	2	-	Y	-	-	LQFP100
LPC2923	256	24	16/16	16	2	2	4	3	2	-	Y	-	-	LQFP100
LPC2921	128	24	16/16	16	2	2	4	3	2	-	Y	-	-	LQFP100
LPC2919/01	768	56	16/16	16	2	2	2	3	2	Y	-	-	-	LQFP144
LPC2917/01	512	56	16/16	16	2	2	2	3	2	Y	-	-	-	LQFP144

Third-Party Development Tools

Through third-party suppliers, we offer a wide range of development tools for our microcontrollers.

For the most up-to-date listing of available evaluation boards, IDEs and JTAG debuggers please visit www.nxp.com/microcontrollers

LPC2900 Block Diagram



www.nxp.com



©2008 NXP B.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.

Date of release: September 2008
 Document order number: 9397 750 16628
 Printed in the Netherlands