

# NXP® LPC Microcontrollers

Q1 2017

The LPC microcontroller portfolio builds on 10 years of leadership and includes more than 400 32-bit devices, covering every application class, from entry-level designs to high-end systems that run Linux® OS. This selection guide is a starting point for choosing a specific device. For the latest product information, visit [nxp.com/LPC](http://nxp.com/LPC).

## What sets LPC devices apart?

- ▶ Power, performance, and features to address 32-bit MCU applications
- ▶ The expertise and technology to solve unique application problems
- ▶ Access to one of the broadest semiconductor portfolios in the industry
- ▶ Complete application solutions from one company
- ▶ Robust software ecosystem and developer support community

## ARM® Cortex®-M Cores

### LPC54000 Series | Scalable, power-efficient mainstream microcontrollers for the broad market | Cortex-M4 core

Representing the very latest microcontroller innovations, the LPC54000 series MCUs include single- and dual-core options with best-in-class power efficiency and scalability.

Part no.	Max. clock speed (MHz)	Core	Memory		Timers			Serial interfaces					Analog		GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		Cortex-M0+ coprocessor	Flash (KB)	RAM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/PWM) <sup>3</sup>	UART <sup>4</sup>	I <sup>2</sup> C <sup>4</sup>	SPI <sup>4</sup>	I <sup>S</sup> <sup>3</sup>	USB device	ADC channels /resolution	Sample rate (MSPS)					
<b>LPC541xx family: streamlined features for always-on applications</b>																			
LPC54101	100	0	256 512	104	15	6	1	4	3	2			12-ch. 12-bit	5	50	1.62–3.6 V	-40 to +105	WLCS49 LQFP64	Low-power ADC, small form factor
LPC54102	100	1	256 512	104	15	6	1	4	3	2			12-ch. 12-bit	5	50	1.62–3.6 V	-40 to +105	WLCS49 LQFP64	Ultra-low-power coprocessor for sensor listening, aggregation, fusion and communication, small form factor
<b>LPC5411x family: power-efficient MCU with USB and digital microphone interface</b>																			
LPC54113	100	0	128 256	up to 192	15	6	1	8	8	8	2	1	12-ch. 12-bit	5	Up to 50	1.62–3.6 V	-40 to +105	WLCS49 LQFP64	On-chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC
LPC54114	100	1	256	192	15	6	1	8	8	8	2	1	12-ch. 12-bit	5	Up to 50	1.62–3.6 V	-40 to +105	WLCS49 LQFP64	On-chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC
<b>LPC546xx family: flexible broad market MCUs with CAN FD and graphics</b>																			
LPC54605	180	-	256 512	136 200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC
LPC54606	180	-	256 512	136 200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, Classic CAN
LPC54607	180	-	256 512	136 200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, LCD
LPC54608	180	-	512	200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, Classic CAN, LCD
LPC54616	180	-	256 512	136 200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, CAN-FD
LPC54618	180	-	512	200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, CAN-FD, LCD
LPC54S606	180	-	512	200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, Classic CAN, Security
LPC54S616	180	-	512	200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, CAN-FD, Security
LPC54S608	180	-	512	200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, Classic CAN, LCD, Security
LPC54S616	180	-	512	200	15	8	1	10	10	10	2	1-FS 1-HS	12 ch. 12-bit	5	Up to 171	1.71–3.6 V	-40 to +105	TFBGA180 LQFP208	On-Chip voice-activation detection (VAD) engine, digital MIC subsystem, low-power ADC, Ethernet, CAN-FD, Security

<sup>1</sup> Includes 32-bit general-purpose timers, watchdog timer, real-time alarm clock, repetitive-interrupt timer, SYSTICK timer, and SCTimer/PWM configured as two 16-bit timers

<sup>2</sup> Includes use of SCTimer/PWM as PWM channels

<sup>3</sup> SCTimer/PWM peripheral can be configured as additional timers and/or PWM channels

<sup>4</sup> Designers have choice of any 8 from 8 UART, 8 I<sup>2</sup>C, 8 SPI, or 2 I<sup>S</sup>



**LPC800 Series** | Entry-level offering, 8-bit simplicity | Cortex-M0+ core

Available in low-pin-count packages, these 30 MHz MCUs offer exceptional power efficiency, 32-bit control, and basic connectivity.

Part no.	Max. clock speed (MHz)	Memory			Timers			Serial interfaces			Analog			GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		Flash (KB)	Flash page (B)	RAM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/PWM) <sup>3</sup>	UART	I <sup>2</sup> C	SPI	ADC channels/resolution	Sample rate	Comparator					
LPC811	30	8	64	2	5	4	1	2	1	1			1	14	1.8–3.6	-40 to +105	TSSOP16	Switch matrix, reduced-power modes, brownout detection, power-on reset
LPC812	30	16	64	4	5	4	1	3	1	2			1	18	1.8–3.6	-40 to +105	SO20, TSSOP16/20, XSON16	Switch matrix, reduced-power modes, brownout detection, power-on reset
LPC822	30	16	64	4	6	8	1	3	4	2	12-ch./12-bit	1.2 Msps	1	29	1.8–3.6	-40 to +105	TSSOP20, HVQFN33	Switch matrix, pattern-match engine, reduced-power modes, brownout detection, power-on reset
LPC824	30	32	64	8	6	8	1	3	4	2	12-ch./12-bit	1.2 Msps	1	29	1.8–3.6	-40 to +105	TSSOP20, HVQFN33	Switch matrix, pattern-match engine, reduced-power modes, brownout detection, power-on reset
LPC832	30	16	64	4	5	8	1	1	1	2	5-ch./12-bit	1.2 Msps		16	1.8–3.6	-40 to +85	TSSOP20	Switch matrix, pattern-match engine, reduced-power modes, brownout detection, power-on reset
LPC834	30	32	64	4	5	8	1	1	1	2	12-ch./12-bit	1.2 Msps		29	1.8–3.6	-40 to +85	HVQFN33	Switch matrix, pattern-match engine, reduced-power modes, brownout detection, power-on reset

<sup>1</sup> Includes multi-rate timer (MRT), self wake-up timer, systick timer, and SCTimer/PWM configured as two 16-bit timers

<sup>2</sup> Includes use of SCTimer/PWM as PWM

<sup>3</sup> SCTimer/PWM peripheral can be configured to provide additional timers and/or PWM channels

**LPC1100 Series** | Low power, broad selection, and industry-standard connectivity | Cortex-M0+ and Cortex-M0 cores

These Cortex-M0+ and Cortex-M0 MCUs deliver exceptional power efficiency for longer battery life, and performance headroom for product enhancements. They provide an upgrade path for the Cortex-M0+ LPC800 Series.

Part no.	Max. clock speed (MHz)	Memory				Timers			Serial interfaces						Analog			GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes		
		Flash (KB)	Flash page (b)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/PWM) <sup>3</sup>	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	USB device <sup>4</sup>	CAN	ADC channels/resolution	Sample rate	DAC						Comparator	RTC
<b>LPC11xx: Low pin count, low-power ARM® Cortex®-M0</b>																								
LPC1102	50	32	256	8		6	7		1	1	1						5-ch./10-bit	400 ksps		11	1.8–3.6	-40 to +85	WLCS16	ROM power profiles, 5V-tolerant I/O
LPC1104	50	32	256	8		6	8		1	1	1						5-ch./10-bit	400 ksps		13	1.8–3.6	-40 to +85	WLCS16	ROM power profiles, 5V-tolerant I/O
LPC1110	50	4	256	1		6	8		1	1	1						5-ch./10-bit	400 ksps		16	1.8–3.6	-40 to +85	SO20	On-chip PMU, ROM power profiles
LPC1111	50	8	256	2/4		6	8/11		1	1	1						5/6/8-ch./10-bit	400 ksps		Up to 28	1.8–3.6	-40 to +85	TSSOP20, HVQFN33	On-chip PMU, ROM power profiles, 5V-tolerant I/O
LPC1112	50	16	256	2/4		6	8/11		1	1	1						5/6/8-ch./10-bit	400 ksps		Up to 28	1.8–3.6	-40 to +85	SO20, TSSOP20/28, HVQFN24/33	On-chip PMU, ROM power profiles, 5V-tolerant I/O
LPC1113	50	24	256	4/8		6	11		1	1	1-2						8-ch./10-bit	400 ksps		28/42	1.8–3.6	-40 to +85	HVQFN33, LQFP48	ROM power profiles, 5V-tolerant I/O
LPC1114	50	32	256	4/8		6	10/11		1	1	1-2						6/8-ch./10-bit	400 ksps		Up to 42	1.8–3.6	-40 to +85	TSSOP28, HVQFN33, LQFP48	On-chip PMU, ROM power profiles, 5V-tolerant I/O
LPC1115	50	64	256	8		6	11		1	1	2						8-ch./10-bit	400 ksps		42	1.8–3.6	-40 to +105	LQFP48, TFBGA48	ROM power profiles, 5V-tolerant I/O
LPC1124	50	32	256	8		6	11		3	1	2						8-ch./12-bit	2 Msps		38	1.8–3.6	-40 to +105	LQFP48	ROM EEPROM drivers and power profiles
LPC1125	50	64	256	8		6	11		3	1	2						8-ch./12-bit	2 Msps		38	1.8–3.6	-40 to +105	LQFP48	ROM EEPROM drivers and power profiles
<b>LPC11xxLV: 1.8 V Cortex-M0</b>																								
LPC1101LV	50	32	256	2		6	10		1	1	1						6-ch./8-bit	400 ksps		21	1.65–1.95	-40 to +85	WLCS25	Tiny package, unique ID
LPC1102LV	50	32	256	8		6	10		1	1	1						6-ch./8-bit	400 ksps		21	1.65–1.95	-40 to +85	WLCS25	Tiny package, unique ID
LPC1112LV	50	16	256	2/4		6	9/11		1	1	1						6-ch./8-bit or 6-ch./10-bit	400 ksps		20/27	1.65–1.95	-40 to +85	HVQFN24/33	Unique ID
LPC1114LV	50	32	256	4/8		6	11		1	1	1						6-ch./8-bit or 6-ch./10-bit	400 ksps		20/27	1.65–1.95	-40 to +85	HVQFN24/33	Unique ID

LPC1100 Series (continued)

Part no.	Max. clock speed (MHz)	Memory				Timers			Serial interfaces					Analog				RTC	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes	
		Flash (KB)	Flash page (b)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/ <sup>3</sup> PWM)	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	USB device <sup>4</sup>	CAN	ADC channels/ resolution	Sample rate	DAC							Comparator
<b>LPC11Axx: Analog Cortex-M0</b>																								
LPC11A02	50	16	256	4	2	6	10		1	1	1				8-ch./10-bit	400 ksps	10 b	1		18	1.8–3.6	-40 to +85	WLCS20	V <sub>REF</sub> UVLO protection
LPC11A04	50	32	256	8	4	6	10		1	1	1				8-ch./10-bit	400 ksps	10 b	1		18	1.8–3.6	-40 to +85	WLCS20	V <sub>REF</sub> UVLO protection
LPC11A11	50	8	256	2	512 b	6	12		1	1	2				8-ch./10-bit	400 ksps	10 b	1		28	1.8–3.6	-40 to +85	HVQFN33	V <sub>REF</sub> UVLO protection
LPC11A12	50	16	256	4	1	6	12		1	1	2				8-ch./10-bit	400 ksps	10 b	1		28/42	1.8–3.6	-40 to +85	HVQFN33, LQFP48	V <sub>REF</sub> UVLO protection
LPC11A13	50	24	256	6	2	6	12		1	1	2				8-ch./10-bit	400 ksps	10 b	1		28	1.8–3.6	-40 to +85	HVQFN33	V <sub>REF</sub> UVLO protection
LPC11A14	50	32	256	8	4	6	12		1	1	2				8-ch./10-bit	400 ksps	10 b	1		28/42	1.8–3.6	-40 to +85	HVQFN33, LQFP48	V <sub>REF</sub> UVLO protection
<b>LPC11Cxx: CAN Cortex-M0</b>																								
LPC11C12	50	16	256	8		6	11		1	1	2			1	8-ch./10-bit	400 ksps				42	1.8–3.6	-40 to +85	LQFP48	C_CAN, USART, SmartCard, ROM EEPROM drivers and power profiles
LPC11C14	50	32	256	8		6	11		1	1	2			1	8-ch./10-bit	400 ksps				42	1.8–3.6	-40 to +85	LQFP48	C_CAN, USART, SmartCard, ROM EEPROM drivers and power profiles
LPC11C22	50	16	256	8		6	10		1	1	2			1	8-ch./10-bit	400 ksps				36	1.8–3.6	-40 to +85	LQFP48	C_CAN and CAN txcvr, USART, SmartCard, ROM EEPROM drivers and power profiles
LPC11C24	50	32	256	8		6	10		1	1	2			1	8-ch./10-bit	400 ksps				36	1.8–3.6	-40 to +85	LQFP48	C_CAN and CAN txcvr, USART, SmartCard, ROM EEPROM drivers and power profiles
<b>LPC11Dxx: Cortex-M0 with LCD driver</b>																								
LPC11D14	50	32	256	8		6	11		1	1	2				8-ch./10-bit	400 ksps				42	1.8–3.6	-40 to +85	LQFP100	LPC1114 with integrated 40 x 4 segment LCD driver
<b>LPC11Exx: EEPROM Cortex-M0</b>																								
LPC11E11	50	8	256	4	512 b	6	11		1	1	2				8-ch./10-bit	400 ksps				28	1.8–3.6	-40 to +85	HVQFN33	ROM EEPROM drivers and power profiles, 32-bit divide libraries
LPC11E12	50	16	256	6	1	6	11		1	1	2				8-ch./10-bit	400 ksps				40	1.8–3.6	-40 to +85	LQFP48	ROM EEPROM drivers and power profiles, 32-bit divide libraries
LPC11E13	50	24	256	8	2	6	11		1	1	2				8-ch./10-bit	400 ksps				40	1.8–3.6	-40 to +85	LQFP48	ROM EEPROM drivers and power profiles, 32-bit divide libraries
LPC11E14	50	32	256	10	4	6	11		1	1	2				8-ch./10-bit	400 ksps				28/40/54	1.8–3.6	-40 to +85	LQFP48/64, HVQFN33	ROM EEPROM drivers and power profiles, 32-bit divide libraries
LPC11E36	50	96	256	12	4	6	11		1	1	2				8-ch./10-bit	400 ksps				28/54	1.8–3.6	-40 to +85	LQFP64, HVQFN33	ROM EEPROM drivers and power profiles, 32-bit divide libraries
LPC11E37	50	128	256	12	4	6	11		1	1	2				8-ch./10-bit	400 ksps				40/54	1.8–3.6	-40 to +85	LQFP48/64	ROM EEPROM drivers and power profiles, 32-bit divide libraries
LPC11E37H	50	128	256	12	4	6	11		2 <sup>5</sup>	2	2	1 <sup>6</sup>			8-ch./10-bit	400 ksps				40/54	1.8–3.6	-40 to +85	LQFP64	LPC11E37 with I/O handler for enhanced I <sup>2</sup> S/UART functionality and DMA transfers
LPC11E66	50	64	256	12	4	6	14	2	4	2	2				8-ch./12-bit	2 Msps		1		36	1.8–3.6	-40 to +105	LQFP48	ROM EEPROM drivers and power profiles
LPC11E67	50	128	256	20	4	6	19	2	5	2	2				12-ch./12-bit	2 Msps		1		36/50/80	1.8–3.6	-40 to +105	LQFP48, LQFP64, LQFP100	ROM EEPROM drivers and power profiles
LPC11E68	50	256	256	36	4	6	19	2	5	2	2				12-ch./12-bit	2 Msps		1		36/50/80	1.8–3.6	-40 to +105	LQFP48, LQFP64, LQFP100	ROM EEPROM drivers and power profiles

## LPC1100 Series (continued)

Part no.	Max. clock speed (MHz)	Memory				Timers			Serial interfaces					Analog				Supply voltage (V)	Temperature range (°C)	Package	Notes	
		Flash (KB)	Flash page (b)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/PWM) <sup>3</sup>	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	USB device <sup>4</sup>	CAN	ADC channels/ resolution	Sample rate	DAC					Comparator
LPC11Uxx: USB Cortex-M0																						
LPC11U12	50	16	256	6		6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				26/40	1.8–3.6	-40 to +85	LQFP48, HVQFN33	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U13	50	24	256	6		6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				40	1.8–3.6	-40 to +85	LQFP48	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U14	50	32	256	6		6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				26/40	1.8–3.6	-40 to +85	HVQFN33, LQFP48, TFBGA48	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U23	50	24	256	8	1	6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				40	1.8–3.6	-40 to +85	LQFP48	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U24	50	32	256	6/8	2/4	6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				26/40/54	1.8–3.6	-40 to +85	HVQFN33, TFBGA48, LQFP48/64	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U34	50	40/48	256	8/10	4	6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				26/40	1.8–3.6	-40 to +85	LQFP48, HVQFN33	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U35	50	64	256	10/12	4	6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				40/54	1.8–3.6	-40 to +85	LQFP48/64, HVQFN33, TFBGA48	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U36	50	96	256	10/12	4	6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				40/54	1.8–3.6	-40 to +85	LQFP48/64	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U37	50	128	256	10/12	4	6	11		1	1	2	1 x FS	8-ch./10-bit	400 ksps				40/54	1.8–3.6	-40 to +85	LQFP48/64	ROM USB drivers and power profiles, 32-bit divide libraries, 5V-tolerant I/O
LPC11U37H	50	128	256	10/12	4	6	11		2 <sup>5</sup>	2	2	1 <sup>6</sup> x FS	8-ch./10-bit	400 ksps				26/40	1.8–3.6	-40 to +85	LQFP64	LPC11U37 with I/O handler for enhanced SPI/UART functionality and DMA transfers
LPC11U66	50	64	256	12	4	11	14	2	3	2	2	1 x FS	8-ch./12-bit	2 Msps			1	34	2.4–3.6	-40 to +105	LQFP48	ROM USB drivers and power profiles, 32-bit divide, temp. sensor
LPC11U67	50	128	256	16	4	11 <sup>7</sup>	14 <sup>8</sup>	2	3	2	2	1 x FS	8-ch./12-bit	2 Msps			1	34	2.4–3.6	-40 to +105	LQFP48	ROM USB drivers and power profiles, 32-bit divide, temp. sensor
LPC11U68	50	256	256	32	4	11 <sup>7</sup>	17/19 <sup>8</sup>	2	5	2	2	1 x FS	10-ch./12-bit or 12-ch./12-bit	2 Msps			1	34/48/80	2.4–3.6	-40 to +105	LQFP48/64/100	ROM USB drivers and power profiles, 32-bit divide, temp. sensor

<sup>1</sup> Includes watchdog timer and SYSTICK timer

<sup>2</sup> Using timers 0-3

<sup>3</sup> SCTimer/PWM peripheral can be configured as additional timers and/or PWM channels

<sup>4</sup> FS = full speed

<sup>5</sup> Includes I/O handler used as UART

<sup>6</sup> Includes I/O handler used as I<sup>2</sup>S interface

<sup>7</sup> Includes timers 0-3, SCTimer/PWMs configured as four 16-bit timers, one Watchdog timer, one real-time clock, and one SYSTICK timer

<sup>8</sup> Includes timers 0-3 and SCTimer/PWMs as PWM (LPC11U68 configuration is package-dependent)

**LPC1200 Series** | **Noise immunity for industrial applications** | **Cortex-M0 core**

Delivering extra reliability in electrically challenging environments, these Cortex-M0 MCUs are optimized for industrial control and home appliances, and are available with an LCD driver.

Part no.	Max. clock speed (MHz)	Memory			Timers		Serial interfaces			Analog			RTC	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		Flash (KB)	Flash sector (b)	RAM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	UART	I <sup>2</sup> C	SPI	ADC channels/ resolution	Sample rate	Comparator						
LPC1224	30	32/48	256	4	7	10	2	1	1	8-ch./10-bit	400 ksps	2	1	39/55	3.2-3.6	-40 to +85	LQFP48/64	Additional DMA, CRC, RS-485
LPC1225	30	64/80	256	8	7	10	2	1	1	8-ch./10-bit	400 ksps	2	1	39/55	3.2-3.6	-40 to +85	LQFP48/64	Additional DMA, CRC, RS-485
LPC1226	30	96	256	8	7	10	2	1	1	8-ch./10-bit	400 ksps	2	1	39/55	3.2-3.6	-40 to +85	LQFP48/64	Additional DMA, CRC, RS-485
LPC1227	30	128	256	8	7	10	2	1	1	8-ch./10-bit	400 ksps	2	1	39/55	3.2-3.6	-40 to +85	LQFP48/64	Additional DMA, CRC, RS-485
LPC12D27	50	128	256	8	7	10	2	1	1	8-ch./10-bit	400 ksps	2	1	39	3.2-3.6	-40 to +85	LQFP100	LPC1227 with integrated 40 x 4 segment LCD driver

<sup>1</sup> Includes watchdog timer, SYSTICK timer, and real-time clock

<sup>2</sup> Using timers 0-3

**LPC1300 Series** | **Performance and basic connectivity, LPC1100 upgrade** | **Cortex-M3 core**

Operating at clock speeds up to 72 MHz and available with a full-speed USB controller, these Cortex-M3 MCUs provide a performance upgrade path for LPC1100 and LPC11U00 devices.

Part no.	Max. clock speed (MHz)	Memory			Timers		Serial interfaces				Analog		GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	UART	I <sup>2</sup> C	SPI	USB device <sup>3</sup>	ADC channels/ resolution	Sample Rate					
<b>LPC131x</b>																	
LPC1311	72	8	4		6	11	1	1	1		8-ch./10-bit	400 ksps	28	2.0-3.6	-40 to +85	HVQFN33	ROM EEPROM drivers and power profiles, USART, SmartCard
LPC1313	72	32	8		6	11	1	1	1		8-ch./10-bit	400 ksps	28/42	2.0-3.6	-40 to +85	LQFP48, HVQFN33	ROM EEPROM drivers and power profiles, USART, SmartCard
LPC1315	72	32	8	2	7	11	1	1	2		8-ch./12-bit	500 ksps	28/51	2.0-3.6	-40 to +85	LQFP48/64, HVQFN33	ROM EEPROM drivers and power profiles, USART, SmartCard
LPC1316	72	48	8	4	7	11	1	1	2		8-ch./12-bit	500 ksps	28/51	2.0-3.6	-40 to +85	LQFP48/64, HVQFN33	ROM EEPROM drivers and power profiles, USART, SmartCard
LPC1317	72	64	10	4	7	11	1	1	2		8-ch./12-bit	500 ksps	28/51	2.0-3.6	-40 to +85	LQFP48/64, HVQFN33	ROM EEPROM drivers and power profiles, USART, SmartCard
<b>LPC134x: USB</b>																	
LPC1342	72	16	4		6	11	1	1	1	1 x FS	8-ch./10-bit	400 ksps	28	2.0-3.6	-40 to +85	LQFP48, HVQFN33	USB device-only controller, ROM USB and EEPROM drivers and power profiles
LPC1343	72	32	8		6	11	1	1	1	1 x FS	8-ch./10-bit	400 ksps	28/42	2.0-3.6	-40 to +85	LQFP48, HVQFN33	USB device-only controller, ROM USB and EEPROM drivers and power profiles
LPC1345	72	32	10	2	7	11	1	1	2	1 x FS	8-ch./12-bit	500 ksps	28/51	2.0-3.6	-40 to +85	LQFP48/64, HVQFN33	USB device-only controller, ROM USB and EEPROM drivers and power profiles in ROM, USART, SmartCard
LPC1346	72	48	10	4	7	11	1	1	2	1 x FS	8-ch./12-bit	500 ksps	28/51	2.0-3.6	-40 to +85	LQFP48/64, HVQFN33	USB device-only controller, ROM USB and EEPROM drivers and power profiles in ROM, USART, SmartCard
LPC1347	72	64	12	4	7	11	1	1	2	1 x FS	8-ch./12-bit	500 ksps	28/51	2.0-3.6	-40 to +85	LQFP48/64, HVQFN33	USB device-only controller, ROM USB and EEPROM drivers and power profiles in ROM, USART, SmartCard

<sup>1</sup> Includes watchdog timer and SYSTICK timer; LPC13x5, LPC13x6, <sup>3</sup> FS = full speed and LPC 13 x 7 add repetitive-interrupt timer

<sup>2</sup> Using timers 0-3

**LPC1500 Series** | High-precision motion control | Cortex-M3 core

Optimized for motor control, these low-power Cortex-M3 MCUs provide a long list of peripherals, including full-speed USB, a CAN controller, an advanced PWM/timer subsystem, and two high-speed 12-bit ADCs.

Part no.	Max. clock speed (MHz)	Memory				Timers			Serial interfaces					Analog				RTC	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/PWM) <sup>3</sup>	UART	I2C	SPI	USB device	CAN	ADC channels/resolution	Sample rate	DAC	Comparator							
LPC1517	72	64	12	4	13	28	4	3	1	2		1	2 x 12-ch./12-bit	2 Msps	12-bit	4	1	32/46	2.4-3.6	-40 to +105	LQFP48/64	Switch matrix, QEI	
LPC1518	72	128	20	4	13	28	4	3	1	2		1	2 x 12-ch./12-bit	2 Msps	12-bit	4	1	46/78	2.4-3.6	-40 to +105	LQFP64/100	Switch matrix, QEI	
LPC1519	72	256	36	4	13	28	4	3	1	2		1	2 x 12-ch./12-bit	2 Msps	12-bit	4	1	46/78	2.4-3.6	-40 to +105	LQFP64/100	Switch matrix, QEI	
LPC1547	72	64	12	4	13	28	4	3	1	2	1 x FS	1	2 x 12-ch./12-bit	2 Msps	12-bit	4	1	30/44	2.4-3.6	-40 to +105	LQFP48/64	USB device-only controller, switch matrix, QEI	
LPC1548	72	128	20	4	13	28	4	3	1	2	1 x FS	1	2 x 12-ch./12-bit	2 Msps	12-bit	4	1	44/76	2.4-3.6	-40 to +105	LQFP64/100	USB device-only controller, switch matrix, QEI	
LPC1549	72	256	36	4	13	28	4	3	1	2	1 x FS	1	2 x 8/12-ch./12-bit	2 Msps	12-bit	4	1	30/76	2.4-3.6	-40 to +105	LQFP48/64/100	USB device-only controller, switch matrix, QEI	

<sup>1</sup> Includes multi-rate timer, repetitive-interrupt timer, windowed watchdog timer, SYSTICK timer, real-time clock, and each SCTimer/PWM configured as two 16-bit timers

<sup>2</sup> Includes use of SCTimer/PWMs as PWM (maximum number depends on package)

<sup>3</sup> SCTimer/PWM peripheral can be configured as additional timers and/or PWM channels

**LPC1700 Series** | High performance, multi-connectivity, advanced peripherals | Cortex-M3 core

With a range of advanced connectivity and display options, these Cortex-M3 MCUs provide an upgrade path for the ARM® ARM7™ LPC2300.

Part no.	Max clock speed (MHz)	Memory				Timers			Serial interfaces						Analog			RTC	LCD controller	SD/MMC	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	UART	I2C	SPI	I2S	USB device/host/OTG <sup>3</sup>	CAN	Ethernet	ADC channels/resolution	Sample rate	DAC										
LPC1751	100	32	8		10	12	4	3	2		1 x FS	1	6-ch./12-bit	400 ksp/s		1				52	2.4-3.6	-40 to +85	LQFP80	QEI, motor-control PWM		
LPC1752	100	64	16		10	12	4	3	2		1 x FS	1	6-ch./12-bit	400 ksp/s		1				52	2.4-3.6	-40 to +85	LQFP80	QEI, motor-control PWM		
LPC1754	100	128	32		10	12	4	3	2		1 x FS	1	6-ch./12-bit	400 ksp/s	10-bit	1				52	2.4-3.6	-40 to +85	LQFP80	QEI, motor-control PWM		
LPC1756	100	256	32		10	12	4	3	2	1	1 x FS	2	6-ch./12-bit	400 ksp/s	10-bit	1				52	2.4-3.6	-40 to +85	LQFP80	QEI, motor-control PWM		
LPC1758	100	512	64		10	12	4	3	2	1	1 x FS	2	6-ch./12-bit	400 ksp/s	10-bit	1				52	2.4-3.6	-40 to +85	LQFP80	QEI, motor-control PWM		
LPC1759	100	512	64		10	12	4	3	2	1	1 x FS	2	6-ch./12-bit	400 ksp/s	10-bit	1				52	2.4-3.6	-40 to +85	LQFP80	QEI, motor-control PWM		
LPC1763	100	256	64		10	12	4	3	2	1			8-ch./12-bit	400 ksp/s	10-bit	1				70	2.4-3.6	-40 to +85	LQFP100	QEI, motor-control PWM		
LPC1764	100	128	32		10	12	4	3	2		1 x FS	2	8-ch./12-bit	400 ksp/s		1				70	2.4-3.6	-40 to +85	LQFP100	QEI, motor-control PWM		
LPC1765	100	256	64		10	12	4	3	2	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1				70	2.4-3.6	-40 to +85	LQFP100, TFBGA100	QEI, motor-control PWM		
LPC1766	100	256	64		10	12	4	3	2	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1				70	2.4-3.6	-40 to +85	LQFP100	QEI, motor-control PWM		
LPC1767	100	512	64		10	12	4	3	2	1		1	8-ch./12-bit	400 ksp/s	10-bit	1				70	2.4-3.6	-40 to +85	LQFP100	QEI, motor-control PWM		
LPC1768	100	512	64		10	12	4	3	2	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1				70	2.4-3.6	-40 to +85	LQFP100, TFBGA100	QEI, motor-control PWM		
LPC1769	120	512	64		10	12	4	3	2	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1				70	2.4-3.6	-40 to +85	LQFP100	QEI, motor-control PWM		
LPC1774	120	128	40	2	9	18	4	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1		8/32	109/165			2.4-3.6	-40 to +85	LQFP144/208	QEI, motor-control PWM	
LPC1776	120	256	80	4	9	18	5	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1	1	16/32	141/165			2.4-3.6	-40 to +85	LQFP208, TFBGA180	QEI, motor-control PWM	
LPC1777	120	512	96	4	9	18	5	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1	1	32	165			2.4-3.6	-40 to +85	LQFP208	QEI, motor-control PWM	
LPC1778	120	512	96	4	9	18	5	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1	1	8/16/32	109/165			2.4-3.6	-40 to +85	LQFP144/208, TFBGA180/208	QEI, motor-control PWM	
LPC1785	120	256	80	4	9	18	5	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1	1	32	165			2.4-3.6	-40 to +85	LQFP208	Motor-control PWM	
LPC1786	120	256	80	4	9	18	5	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1	1	32	165			2.4-3.6	-40 to +85	LQFP208	QEI, motor-control PWM	
LPC1787	120	512	96	4	9	18	5	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1	1	32	165			2.4-3.6	-40 to +85	LQFP208	QEI, motor-control PWM	
LPC1788	120	512	96	4	9	18	5	3	3	1	1 x FS	2	8-ch./12-bit	400 ksp/s	10-bit	1	1	8/16/32	109/165			2.4-3.6	-40 to +85	LQFP144/208, TFBGA180/208	QEI, motor-control PWM	

<sup>1</sup> Includes watchdog timer, SYSTICK timer, motor-control timer, PWM timer, and real-time clock; LPC177x/8x adds a repetitive-interrupt timer <sup>3</sup> FS = full speed

<sup>2</sup> Using motor-control PWM and one (LPC175x/6x) or two (LPC177x/8x) general-purpose PWMs

**LPC1800 Series** | **Best M3 performance, multi-high-speed connectivity, advanced peripherals** | **Cortex-M3 core**

These feature-packed devices combine the industry's highest-performance Cortex-M3 (up to 180 MHz) with a wide range of advanced connectivity.

Part no.	Max. clock speed (MHz)	Memory			Timers			Serial interfaces				Analog			Security			RTC	LCD controller	Quad SPI flash interface (SPIFI) <sup>6</sup>	SDIO	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes		
		Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/PWM) <sup>3</sup>	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	USB device/host <sup>4</sup>	CAN	Ethernet	ADC channels/resolution	Sample rate	DAC											AES engine	OTP key storage <sup>5</sup>
<b>LPC18xx: High-performance ARM Cortex-M3</b>																													
LPC1810	180		136		10	22	1	4	2	3	2		2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +85	LQFP144, TFBGA100	Flashless		
LPC1812	180	512	104	16	10	22	1	4	2	3	2		2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Single-bank flash		
LPC1813	180	512	104	16	10	22	1	4	2	3	2		2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash		
LPC1815	180	768	136	16	10	22	1	4	2	3	2		2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash		
LPC1817	180	1024	136	16	10	22	1	4	2	3	2		2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash		
LPC1820	180		168		10	22	1	4	2	3	2	1 x HS	2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +85	LQFP144, TFBGA100	Flashless, on-chip HS USB PHY with OTG		
LPC1822	180	512	104	16	10	22	1	4	2	3	2	1 x HS	2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Single-bank flash, on-chip HS USB PHY with OTG		
LPC1823	180	512	104	16	10	22	1	4	2	3	2	1 x HS	2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash, on-chip HS USB PHY with OTG		
LPC1825	180	768	136	16	10	22	1	4	2	3	2	1 x HS	2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash, on-chip HS USB PHY with OTG		
LPC1827	180	1024	136	16	10	22	1	4	2	3	2	1 x HS	2	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	8/16	Up to 64	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash, on-chip HS USB PHY with OTG		
LPC1830	180		200		10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	16/32	Up to 64	2.2-3.6	-40 to +85	LQFP144, TFBGA100/180, LBG256	Flashless, on-chip HS USB PHY with OTG	
LPC1833	180	512	136	16	10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	16/32	164	2.2-3.6	-40 to +105	LQFP100/144, LBG256	Dual-bank flash, on-chip HS USB PHY with OTG	
LPC1837	180	1024	136	16	10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	16/32	164	2.2-3.6	-40 to +105	LQFP100/144, LBG256	Dual-bank flash, on-chip HS USB PHY with OTG	
LPC1850	180		200		10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	16/32	164	2.2-3.6	-40 to +85	LQFP208, TFBGA180, LBG256	Flashless, on-chip HS USB PHY with OTG, 1024 x 768 color LCD controller	
LPC1853	180	512	136	16	10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	16/32	164	2.2-3.6	-40 to +105	LQFP208, LBG256	Dual-bank flash, on-chip HS USB PHY with OTG, 1024 x 768 color LCD controller	
LPC1857	180	1024	136	16	10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit			1	1	1	16/32	164	2.2-3.6	-40 to +105	LQFP208, LBG256	Dual-bank flash, on-chip HS USB PHY with OTG, 1024 x 768 color LCD controller	
<b>LPC185xx: High-performance Cortex-M3 with security features for protecting code and data</b>																													
LPC18510	180		136		10	22	1	4	2	3	2		2	2x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	8/16	Up to 64	2.2-3.6	-40 to +85	LQFP144, BGA100, BGA180	Flashless	
LPC18530	180		200		10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	Up to 64	2.2-3.6	-40 to +85	LQFP144, BGA100, BGA256	Flashless, on-chip HS USB PHY with OTG
LPC18537	180	1024	136	16	10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	164	2.2-3.6	-40 to +105	LQFP144, BGA100	Dual-bank flash, on-chip HS USB PHY with OTG
LPC18550	180		200		10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	164	2.2-3.6	-40 to +85	BGA180, BGA256	Flashless, on-chip HS USB PHY with OTG
LPC18557	180	1024	136	16	10	22	1	4	2	3	2	2x HS <sup>4</sup>	2	1	2x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	164	2.2-3.6	-40 to +105	LQFP208, BGA256	Dual-bank flash, on-chip HS USB PHY with OTG

<sup>1</sup> Includes watchdog timer, real-time alarm clock, repetitive-interrupt timer, SYSTICK timer, and SCTimer/PWM configured as two 16-bit timers

<sup>2</sup> Using motor-control PWM and SCTimer/PWM as PWM

<sup>3</sup> SCTimer/PWM peripheral can be configured as additional timers and/or PWM channels

<sup>4</sup> HS = high speed

<sup>5</sup> OTP can store two 128-bit keys

<sup>6</sup> SPIFI peripheral enables use of large, low-cost Quad SPI Flash

<sup>7</sup> USB0 = integrated HS PHY, USB1 = integrated FS PHY or ULPI

**LPC4000 Series** | **High performance, DSP options, multi-connectivity, advanced peripherals** | **Cortex-M4 core**

These Cortex-M4 MCUs provide an upgrade path for the Cortex-M3 LPC177x/8x families.

Part no.	Max. clock speed (MHz)	Floating-point unit (FPU)	Memory			Timers			Serial interfaces				Analog			RTC	LCD controller	Quad SPI flash interface (SPIFI) <sup>4</sup>	SD/MMC	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes		
			Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	USB device/host/OTG <sup>3</sup>	CAN	Ethernet	ADC channels/resolution											Sample rate	DAC
LPC4072	120		64	24	2	9	18	4	3	3	1	1 x FS	2		8-ch./12-bit	400 ksp/s	10-bit			1	1		53	2.4-3.6	-40 to +85	LQFP80, TFBGA80	Low-power Harvard architecture
LPC4074	120		128	40	2	9	18	4	3	3	1	1 x FS	2		8-ch./12-bit	400 ksp/s	10-bit			1	1		53/109	2.4-3.6	-40 to +85	LQFP144, TFBGA80	Low-power Harvard architecture
LPC4076	120	1	256	80	4	9	18	5	3	3	1	1 x FS	2	1	8-ch./12-bit	400 ksp/s	10-bit	2	1	1	1	8/16	109/140	2.4-3.6	-40 to +85	LQFP144, TFBGA180	Low-power Harvard architecture, QEI, floating-point unit
LPC4078	120	1	512	96	4	9	18	5	3	3	1	1 x FS	2	1	8-ch./12-bit	400 ksp/s	10-bit	2	1	1	1	8/16/32	53/165	2.4-3.6	-40 to +85	LQFP80/100/144/208, TFBGA180/208	Low-power Harvard architecture, QEI, floating-point unit
LPC4088	120	1	512	96	4	9	18	5	3	3	1	1 x FS	2	1	8-ch./12-bit	400 ksp/s	10-bit	2	1	1	1	8/16/32	109/165	2.4-3.6	-40 to +85	LQFP144/208, TFBGA180/208	Low-power Harvard architecture, QEI, floating-point unit

<sup>1</sup> Includes watchdog timer, SYSTICK timer, motor-control timer, PWM timer, and real-time clock

<sup>2</sup> Using motor-control PWM and two general-purpose PWMs

<sup>3</sup> FS = full-speed

<sup>4</sup> SPIFI peripheral enables use of large, low-cost Quad SPI Flash

**LPC4300 Series** | **Best performance, DSP functionality, options for multi-core, multi-high-speed connectivity, advanced peripherals** | **Cortex-M4 core**

These multi-core devices combine the Cortex-M4 DSP capabilities with the Cortex-M0 power efficiency enabling application partition across cores for higher performance.

Part no.	Max. clock speed (MHz)	Core		Memory			Timers			Serial interfaces					Analog		Security			RTC	LCD controller	Quad SPI flash interface (SPIFI) <sup>7</sup>	SDIO	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes	
		Cortex-M0 coprocessor	Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	State-configurable timer (SCTimer/PWM) <sup>3</sup>	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	SGPIO <sup>4</sup>	USB device/host <sup>5</sup>	CAN	Ethernet	ADC channels/resolution	Sample rate	DAC											AES engine
<b>LPC43xx: Multi-core ARM Cortex-M4/M0</b>																														
LPC4310	204	1		168	12	22	1	4	2	3	2	1		2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +85	LQFP144, TFBGA100	Flashless	
LPC4312	204	1	512	104	16	22	1	4	2	3	2	1		2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Single-bank flash	
LPC4313	204	1	512	104	16	22	1	4	2	3	2	1		2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash	
LPC4315	204	1	768	136	16	22	1	4	2	3	2	1		2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash	
LPC4317	204	1	1024	136	16	22	1	4	2	3	2	1		2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash	
LPC4320	204	1		200	12	22	1	4	2	3	2	1	1 x HS	2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +85	LQFP144, TFBGA100	Flashless, on-chip USB HS PHY	
LPC4322	204	1	512	104	16	22	1	4	2	3	2	1	1 x HS	2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Single-bank flash, on-chip USB HS PHY	
LPC4323	204	1	512	104	16	22	1	4	2	3	2	1	1 x HS	2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash, on-chip USB HS PHY	
LPC4325	204	1	768	136	16	22	1	4	2	3	2	1	1 x HS	2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash, on-chip USB HS PHY	
LPC4327	204	1	1024	136	16	22	1	4	2	3	2	1	1 x HS	2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit				1	1	1	8/16	Up to 83	2.2-3.6	-40 to +105	LQFP144, TFBGA100	Dual-bank flash, on-chip USB HS PHY	
LPC4330	204	1		264	12	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit				1	1	1	16/32	Up to 164	2.2-3.6	-40 to +85	LQFP144, TFBGA180/100, LBG256	Flashless, on-chip USB HS PHY with OTG	
LPC4333	204	1	512	136	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit				1	1	1	16/32	Up to 164	2.2-3.6	-40 to +105	LQFP144, TFBGA100, LBG256	Dual-bank flash, on-chip USB HS PHY	
LPC4337	204	1	1024	136	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit				1	1	1	16/32	Up to 164	2.2-3.6	-40 to +105	LQFP144, TFBGA100, LBG256	Dual-bank flash, on-chip USB HS PHY with OTG	
LPC4350	204	1		264	12	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit				1	1	1	16/32	Up to 164	2.2-3.6	-40 to +85	LQFP208, LBG256, TFBGA180	Flashless, on-chip HS USB PHY, 1024x768 color LCD controller	
LPC4353	204	1	512	136	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit				1	1	1	16/32	Up to 164	2.2-3.6	-40 to +105	LQFP208, LBG256	Dual-bank flash, on-chip HS USB PHY, 1024 x 768 color LCD controller	
LPC4357	204	1	1024	136	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit				1	1	1	16/32	Up to 164	2.2-3.6	-40 to +105	LQFP208, LBG256	Dual-bank flash, on-chip HS USB PHY, 1024 x 768 color LCD controller	
LPC4367	204	2	1024	154	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit				1	1	1	16/32	Up to 164	2.2-3.6	-40 to +85	TFBGA100, LQFP208, LBG256	IO subsystem, dual-bank flash, on-chip HS USB PHY, 1024 x 768 color LCD controller	
LPC4370	204	2		282	12	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	1 x 6-ch./12-bit 2 x 8-ch./10-bit <sup>9</sup>	80 Msp/s 400 ksp/s	10-bit				1	1	1	1	8/32	Up to 164	2.2-3.6	-40 to +85	LBGA256, TFBGA100	6-ch. 80 Msp/s ADC, on-chip USB PHY, 1024 x 768 color LCD controller
<b>LPC435xx: Multi-core ARM Cortex-M4/M0 with security features for protecting code and data</b>																														
LPC43520	204	1		200	12	22	1	4	2	3	2	1	1 x HS	2	2 x 4/6-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	8/16	Up to 83	2.2-3.6	-40 to +85	LQFP144, BGA180	Flashless, on-chip USB HS PHY	
LPC43530	204	1		264	12	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	Up to 164	2.2-3.6	-40 to +85	LQFP144, BGA100, BGA256	Flashless, on-chip USB HS PHY with OTG	
LPC43537	204	1	1024	136	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	Up to 164	2.2-3.6	-40 to +105	LQFP144, BGA100	Dual-bank flash, on-chip USB HS PHY with OTG	
LPC43550	204	1		264	12	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	Up to 164	2.2-3.6	-40 to +105	BGA180, BGA256	Flashless, on-chip USB HS PHY 1024 x 768 color LCD controller	
LPC43567	204	2	1024	154	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	Up to 164	2.2-3.6	-40 to +85	TFBGA100, LQFP208, LBG256	IO subsystem, dual-bank flash, on-chip HS USB PHY, 1024 x 768 color LCD controller	
LPC43557	204	1	1024	136	16	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	2 x 8-ch./10-bit	400 ksp/s	10-bit	•	•	•	1	1	1	16/32	Up to 164	2.2-3.6	-40 to +85	LQFP208, LBG256	Dual-bank flash, on-chip USB HS PHY 1024 x 768 color LCD controller	
LPC43570	204	2		282	12	22	1	4	2	3	2	1	2 x HS <sup>8</sup>	2	1 x 6-ch./12-bit 2 x 8-ch./10-bit <sup>9</sup>	80 Msp/s 400 ksp/s	10-bit	•	•	•	1	1	1	1	16/32	Up to 164	2.2-3.6	-40 to +85	BGA100, BGA256	6-ch. 80 Msp/s ADC, on-chip USB PHY, 1024 x 768 color LCD controller

<sup>1</sup> Includes watchdog timer, real-time alarm clock, repetitive-interrupt timer, SYSTICK timer, and SCTimer/PWM configured as two 16-bit timers

<sup>2</sup> Using motor-control PWM and SCTimer/PWM as PWM

<sup>3</sup> SCTimer/PWM peripheral can be configured as additional timers and/or PWM channels

<sup>4</sup> SGPIO peripheral can be configured as additional PWM, I<sup>2</sup>C, I<sup>2</sup>S, SSI/SSP, and/or UART channels

<sup>5</sup> HS = high speed

<sup>6</sup> OTP can store two 128-bit keys

<sup>7</sup> SPIFI peripheral enables use of large, low-cost Quad SPI Flash

<sup>8</sup> USB0 = integrated HS PHY, USB1 = integrated FS PHY or ULP1

<sup>9</sup> LBG256 package only



# ARM7™ and ARM9™ Cores

Building on some of the industry's most popular ARM® cores, these devices deliver tailored performance in a very wide range of applications. Many are pin-compatible with LPC Cortex-M families, providing fast development with easy design scalability.

## LPC2100/200/300/400 Families | The most popular ARM7 | ARM7TDMI-S

These ARM7 MCUs are some of the industry's most popular 32-bit MCUs for control applications.

Part no.	Max. clock speed (MHz)	Memory			Timers		Serial interfaces						Analog			RTC	LCD controller	SD/MMC	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes	
		Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	UART	I <sup>2</sup> C	SPI	I/S	USB device/host/OTG <sup>3</sup>	CAN	Ethernet	ADC channels/resolution	Sample rate										DAC
<b>LPC21xx</b>																									
LPC2101	70	8	2		6	14	2	2	2					8-ch./10-bit	400 ksp/s		1				32	1.8/3.3	-40 to +85	LQFP48	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2102	70	16	4		6	14	2	2	2					8-ch./10-bit	400 ksp/s		1				32	1.8/3.3	-40 to +85	LQFP48	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2103	70	32	8		6	14	2	2	2					8-ch./10-bit	400 ksp/s		1				32	1.8/3.3	-40 to +85	LQFP48	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2104	60	128	16		5	6	2	1	1								1				32	1.8/3.3	-40 to +85	LQFP48	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2106	60	128	64		5	6	2	1	1								1				32	1.8/3.3	-40 to +85	LQFP48	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2131	60	32	8		5	6	2	2	2					8-ch./10-bit	400 ksp/s		1				47	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, V <sub>BAT</sub> , fast I/O
LPC2132	60	64	16		5	6	2	2	2					8-ch./10-bit	400 ksp/s	10-bit	1				47	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, V <sub>BAT</sub> , fast I/O
LPC2134	60	128	16		5	6	2	2	2					2x 8-ch./10-bit	400 ksp/s	10-bit	1				47	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, V <sub>BAT</sub> , fast I/O
LPC2136	60	256	32		5	6	2	2	2					2x 8-ch./10-bit	400 ksp/s	10-bit	1				47	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, V <sub>BAT</sub> , fast I/O
LPC2138	60	512	32		5	6	2	2	2					2x 8-ch./10-bit	400 ksp/s	10-bit	1				47	3.0-3.6	-40 to +85	LQFP64, HVQFN64	Brownout detection, power-on reset, 32 kHz XTAL input, V <sub>BAT</sub> , fast I/O
LPC2141	60	32	8		5	6	2	2	2			1 x FS		6-ch./10-bit	400 ksp/s		1				45	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, VGA, fast I/O
LPC2142	60	64	16		5	6	2	2	2			1 x FS		6-ch./10-bit	400 ksp/s	10-bit	1				45	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, VGA, fast I/O
LPC2144	60	128	16		5	6	2	2	2			1 x FS		1 x 6-ch./10-bit 1 x 8-ch./10-bit	400 ksp/s	10-bit	1				45	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, VGA, fast I/O
LPC2146	60	256	40		5	6	2	2	2			1 x FS		1 x 6-ch./10-bit 1 x 8-ch./10-bit	400 ksp/s	10-bit	1				45	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, VGA, fast I/O
LPC2148	60	512	40		5	6	2	2	2			1 x FS		1 x 6-ch./10-bit 1 x 8-ch./10-bit	400 ksp/s	10-bit	1				45	3.0-3.6	-40 to +85	LQFP64	Brownout detection, power-on reset, 32 kHz XTAL input, VGA, fast I/O
<b>LPC22xx</b>																									
LPC2210	60		16		3	6	2	1	2					8-ch./10-bit	400 ksp/s		1				76	1.8/3.3	-40 to +85	LQFP144	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2212	60	128	16		3	6	2	1	2					8-ch./10-bit	400 ksp/s		1				112	1.8/3.3	-40 to +85	LQFP144	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2214	60	256	16		3	6	2	1	2					8-ch./10-bit	400 ksp/s		1				112	1.8/3.3	-40 to +85	LQFP144	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2220	75		64		3	6	2	1	2					8-ch./10-bit	400 ksp/s		1				76	1.8/3.3	-40 to +85	LQFP144, TFBGA144	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2290	60		64		3	6	2	1	2				2	8-ch./10-bit	400 ksp/s		1				76	1.8/3.3	-40 to +85	LQFP144	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2292	60	256	16		3	6	2	1	2				2	8-ch./10-bit	400 ksp/s		1				112	1.8/3.3	-40 to +85	LQFP144, TFBGA144	Dual supply voltage, 32 kHz XTAL input, fast I/O
LPC2294	60	256	16		3	6	2	1	2				4	8-ch./10-bit	400 ksp/s		1				112	1.8/3.3	-40 to +125	LQFP144	Dual supply voltage, 32 kHz XTAL input, fast I/O
<b>LPC23xx</b>																									
LPC2361	72	64	34		6	6	4	3	3	1	1 x FS	2		6-ch./10-bit	400 ksp/s	10-bit	1				70	3.0-3.6	-40 to +85	LQFP100	On-chip USB PHY, RC oscillator, DMA, RTC, IrDA
LPC2362	72	128	58		6	6	4	3	3	1	1 x FS	2	1	6-ch./10-bit	400 ksp/s	10-bit	1				70	3.0-3.6	-40 to +85	LQFP100	On-chip USB PHY, RC oscillator, DMA, RTC, IrDA
LPC2364	72	128	34		6	6	4	3	3	1	1 x FS	2	1	6-ch./10-bit	400 ksp/s	10-bit	1				70	3.0-3.6	-40 to +85	LQFP100, TFBGA100	On-chip USB PHY, DMA, RTC, IrDA
LPC2365	72	256	58		6	6	4	3	3	1			1	6-ch./10-bit	400 ksp/s	10-bit	1				70	3.0-3.6	-40 to +85	LQFP100	RC oscillator, DMA, RTC, IrDA
LPC2366	72	256	58		6	6	4	3	3	1	1 x FS	2	1	6-ch./10-bit	400 ksp/s	10-bit	1				70	3.0-3.6	-40 to +85	LQFP100	On-chip USB PHY, RC oscillator, DMA, RTC, IrDA
LPC2367	72	512	58		6	6	4	3	3	1			1	6-ch./10-bit	400 ksp/s	10-bit	1		1		70	3.0-3.6	-40 to +85	LQFP100	RC oscillator, DMA, RTC, IrDA
LPC2368	72	512	58		6	6	4	3	3	1	1 x FS	2	1	6-ch./10-bit	400 ksp/s	10-bit	1		1		70	3.0-3.6	-40 to +85	LQFP100, TFBGA100	On-chip USB PHY, RC oscillator, DMA, RTC, IrDA
LPC2377	72	512	58		6	6	4	3	3	1			1	8-ch./10-bit	400 ksp/s	10-bit	1		1	8	104	3.0-3.6	-40 to +85	LQFP144	RC oscillator, DMA, RTC, IrDA, 8-bit Mini-Bus
LPC2378	72	512	58		6	6	4	3	3	1	1 x FS	2	1	8-ch./10-bit	400 ksp/s	10-bit	1		1	8	104	3.0-3.6	-40 to +85	LQFP144	On-chip USB PHY, RC oscillator, DMA, RTC, IrDA, 8-bit Mini-Bus
LPC2387	72	512	98		6	6	4	3	3	1	1 x FS	2	1	8-ch./10-bit	400 ksp/s	10-bit	1		1		70	3.0-3.6	-40 to +85	LQFP100	On-chip USB PHY, RC oscillator, DMA, RTC, IrDA
LPC2388	72	512	98		6	6	4	3	3	1	1 x FS	2	1	8-ch./10-bit	400 ksp/s	10-bit	1		1	8	104	3.0-3.6	-40 to +85	LQFP144	On-chip USB PHY, RC oscillator, DMA, RTC, IrDA, 8-bit Mini-Bus

## LPC2100/200/300/400 Families (continued)

Part no.	Max. clock speed (MHz)	Memory			Timers		Serial interfaces						Analog			RTC	LCD controller	SD/MMC	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes	
		Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	USB device/host/OTG <sup>3</sup>	CAN	Ethernet	ADC channels/resolution	Sample rate										DAC
LPC24xx																									
LPC2420	72		82		6	12	4	3	2	1	2 x FS			8-ch./10-bit	400 ksp/s	10-bit	1		1	32	160	3.0-3.6	-40 to +85	LQFP208, TFBGA208	On-chip USB PHY, RC oscillator, DMA, RTC, 2 PWM blocks, IrDA
LPC2458	72	512	98		6	12	4	3	2	1	2 x FS			8-ch./10-bit	400 ksp/s	10-bit	1		1	16	160	3.0-3.6	-40 to +85	TFBGA180	On-chip USB PHY, RC oscillator, DMA, RTC, 2 PWM blocks, IrDA
LPC2460	72		98		6	12	4	3	2	1	2 x FS			8-ch./10-bit	400 ksp/s	10-bit	1		1	32	160	3.0-3.6	-40 to +85	LQFP208, TFBGA208	On-chip USB PHY, RC oscillator, DMA, RTC, 2 PWM blocks, IrDA
LPC2468	72	512	98		6	12	4	3	2	1	2 x FS			8-ch./10-bit	400 ksp/s	10-bit	1		1	32	160	3.0-3.6	-40 to +85	LQFP208, TFBGA208	On-chip USB PHY, RC oscillator, DMA, RTC, 2 PWM blocks, IrDA
LPC2470	72		98		6	12	4	3	2	1	2 x FS			8-ch./10-bit	400 ksp/s	10-bit	1	1	1	32	160	3.0-3.6	-40 to +85	LQFP208, TFBGA208	On-chip USB PHY, RC oscillator, DMA, RTC, 2 PWM blocks, IrDA
LPC2478	72	512	98		6	12	4	3	2	1	2 x FS			8-ch./10-bit	400 ksp/s	10-bit	1	1	1	32	160	3.0-3.6	-40 to +85	LQFP208, TFBGA208	On-chip USB PHY, RC oscillator, DMA, RTC, 2 PWM blocks, IrDA

<sup>1</sup> Includes watchdog timer and real-time clock      <sup>3</sup> FS = full speed

<sup>2</sup> Using timers 0-3

## LPC2900 Family | Fastest ARM986 | ARM986E-S

The LPC2900 series microcontrollers are an excellent choice for demanding applications like industrial drives, HVAC systems, vending and cash machines, and motor control.

Part no.	Max. clock speed (MHz)	Memory			Timers		Serial interfaces						Analog		RTC	LCD controller	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		Flash (KB)	RAM (KB)	EEPROM (KB)	Standard timers <sup>1</sup>	PWM channels <sup>2</sup>	UART	I <sup>2</sup> C	SPI	USB device/host/OTG <sup>3</sup>	CAN	ADC channels/resolution	Sample rate									
LPC2900: ARM986E-S																						
LPC2925	125	512	40	16	7	24	4	2	3	1 x FS	2	16-ch./10-bit	400 ksp/s				60	1.8/3.3	-40 to +85	LQFP100	Dual supply, USB device/OTG controller, 32 KB IDTCM, motor control, GP DMA	
LPC2926	125	256	56	16	7	24	4	2	3	1 x FS	2	24-ch./10-bit	400 ksp/s				104	1.8/3.3	-40 to +85	LQFP144	Dual supply, USB device/OTG controller, 32 KB IDTCM, motor control, GP DMA	
LPC2929	125	768	56	16	7	24	4	2	3	1 x FS	2	24-ch./10-bit	400 ksp/s	8			104	1.8/3.3	-40 to +85	LQFP144	Dual supply, USB device/OTG controller, 32 KB IDTCM, motor control, GP DMA	
LPC2930	125		56	16	7	24	4	2	3	2 x FS	2	24-ch./10-bit	400 ksp/s				32	152	1.8/3.3	-40 to +85	LQFP208	Dual supply, USB device/host/OTG controller, 32 KB IDTCM, motor control, GP DMA
LPC2939	125	768	56	16	7	24	4	2	3	2 x FS	2	24-ch./10-bit	400 ksp/s	32			152	1.8/3.3	-40 to +85	LQFP208	Dual supply, USB device/host/OTG controller, 32 KB IDTCM, motor control, GP DMA	

<sup>1</sup> Includes watchdog timer and real-time clock      <sup>3</sup> FS = full speed

<sup>2</sup> Using timers 0-3

## LPC3000 Series | Linux platforms | ARM926EJ

An ideal, low-cost platform for running the Linux operating system, these high-performance ARM9-based application controllers operate at clock speeds up to 270 MHz.

Part no.	Max. clock speed (MHz)	Memory		Timers		Serial interfaces						Analog		RTC	LCD controller	SD/MMC	External bus interface (bits)	GPIO	Supply voltage (V)	Temperature range (°C)	Package	Notes
		RAM (KB)	Standard timers	PWM channels	UART	I <sup>2</sup> C	SPI	I <sup>2</sup> S	USB device/host/OTG <sup>1</sup>	CAN	Ethernet	ADC channels/resolution	Sample rate									
LPC31xx: ARM926EJ with NAND Flash controller																						
LPC3130	180	96	4	1	1	2	4	2	1	1	1	4-ch./10-bit	400 ksp/s	1	1	1	32	97	1.8-3.3	-40 to +85	TFBGA180	Random number generator
LPC3131	180	192	4	1	1	2	4	2	1	1	1	4-ch./10-bit	400 ksp/s	1	1	1	16	97	1.8-3.3	-40 to +85	TFBGA180	Random number generator
LPC3143	270	192	4	1	1	2	4	2	1	1	1	4-ch./10-bit	400 ksp/s	1	1	1	16	97	1.8-3.3	-40 to +85	TFBGA180	Random number generator, unique ID, OTP, decryption engine, secure boot
LPC3154	180	192	4	1	1	1	3	2	1	1	1	3-ch./10-bit	400 ksp/s	1	1	1	32	157	1.8-3.3	-40 to +85	TFBGA208	LPC3152 with decryption, secure boot
LPC3180/01	208	64	4	1	7	2	3					3-ch./10-bit	400 ksp/s	1		1	32	55	1.8-3.3	-40 to +85	LFBGA320	Low power, VFP unit, NAND Flash, SDRAM/DDR
LPC32xx: ARM926EJ with VFP coprocessor																						
LPC3220	266	128	8	11	7	2	2	2	2	1 x FS	2	3-ch./10-bit	400 ksp/s	1		1	32	87	1.8-3.3	-40 to +85	LFBGA296	Low-power mode (0.9 V), SDRAM/DDR, keypad interface
LPC3240	266	256	8	11	7	2	2	2	2	1 x FS	2	3-ch./10-bit	400 ksp/s	1		1	32	87	1.8-3.3	-40 to +85	LFBGA296	Low-power mode (0.9 V), SDRAM/DDR, keypad interface
LPC3250	266	256	8	11	7	2	2	2	2	1 x FS	2	3-ch./10-bit	400 ksp/s	1	1	1	32	87	1.8-3.3	-40 to +85	LFBGA296	Low-power mode (0.9 V), SDRAM/DDR, keypad interface, 24-bit color LCD/touchscreen controller

<sup>1</sup> FS = full-speed, high-psd HS = high-speed

# Discover the difference

## MCUXpresso Software and Tools

NXP's MCUXpresso software and tools offer comprehensive development solutions designed to optimize, ease and accelerate embedded system development of applications based on Cortex-M core devices, including Kinetis and LPC microcontrollers.



### MCUXpresso IDE

Edit, compile, debug and optimize in an intuitive and powerful IDE based on open-source Eclipse-based software. Featuring industry-standard ARM GNU Compiler Collection (GCC) and GNU Debugger (GDB), among others, plus support for leading debug probe technology from NXP, SEGGER and P&E; this IDE empowers engineers to develop high-quality embedded applications.



### MCUXpresso SDK

NXP's Kinetis and LPC MCUs are supported by software development kits (SDK) that include system startup, peripheral drivers, USB and connectivity stacks, middleware, and real-time operating system (RTOS) kernels. Usage examples and demo applications are included with the free SDK downloads, and allow you to leverage the MCUXpresso IDE and toolchains from ARM Keil®, IAR, and other widely used IDEs.



### MCUXpresso Config Tools

Kinetis and LPC MCUs are supported by graphical pin and clock tools to quickly and easily configure peripheral functionality, electrical properties and pin multiplexing.

Learn more [www.nxp.com/MCUXpresso](http://www.nxp.com/MCUXpresso).

Other device drivers and example code include:

- ▶ LPCOpen is an extensive set of RTOS-agnostic libraries with common APIs that include chip- and board-level device drivers, protocol stacks for TCP/IP (LwIP), USB devices and hosts, CAN bus, and SEGGER emWin graphics libraries. Project files for ARM Keil®, IAR® and MCUXpresso IDE tools are provided and other toolchains can also be used if desired. LPCOpen is available for these device series: LPC1100, LPC1300, LPC1500, LPC1700, LPC1800, LPC4000, LPC4300. Learn more at [www.nxp.com/LPCOpen](http://www.nxp.com/LPCOpen)
- ▶ Code Bundles are very simple and easy to use peripheral libraries with accompanying examples intended for users of the LPC800 series device to easily migrate to 32-bit ARM MCUs from legacy 8- and 16- bit processors. Code bundles are available from product information page each LPC800 series device on [www.nxp.com](http://www.nxp.com).
- ▶ MCUXpresso Config Tools—A comprehensive suite of system configuration tools, including pins, clocks, SDK builder and more.

Learn more [www.nxp.com/MCUXpresso](http://www.nxp.com/MCUXpresso).



### LPCXpresso Development Boards

LPCXpresso boards are a low cost, easy to use development platform; a concept pioneered by NXP. All boards incorporate an on-board debug probe with option for an external probe. The boards work seamlessly with MCUXpresso IDE and all partner tool-chains that support CMSIS-DAP or J-link protocols. Flexible expansion options include Arduino UNO and PMod. Most LPCXpresso boards also support SWO trace and profiling, and several also include on-board power measurement.

Learn more about LPCXpresso board at [www.nxp.com/LPCXpresso-BOARDS](http://www.nxp.com/LPCXpresso-BOARDS).

## A whole universe of third-party tools and software

NXP brings together world-class development platforms, tools, boards, and software from NXP and partners to get you started developing on NXP LPC microcontrollers in just minutes. With advanced yet low-cost ways to evaluate, develop, and debug with LPC MCUs and a choice of toolchains that support the entire Cortex-M portfolio, the LPC developer ecosystem gives you a familiar set of tools no matter which LPC MCU you choose. NXP works closely with the best software product providers in the industry to facilitate the highest quality middleware for LPC MCUs. For more information about LPC partner resources, visit: [www.nxp.com/microcontrollers/ecosystem](http://www.nxp.com/microcontrollers/ecosystem).

## The 10-year promise: the NXP Product Longevity program

The NXP Product Longevity program ensures a stable supply of microcontrollers for your design. Longevity products are available for a minimum of ten years after product launch, and are supported by our standard end-of-life notification policy. Most products in the Cortex-M and ARM9 categories are covered by the program. Longevity products remain in the program even if the manufacturing site changes. We manufacture through a number of resources, including our own factories and qualified outside vendors. If we transfer a longevity product to another facility, we re-qualify the product to maintain its status in the longevity program. For a complete, up-to-date list of longevity products, visit <http://www.nxp.com/LPC-ProductLongevity>.

---

[www.nxp.com/LPC](http://www.nxp.com/LPC)

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. ARM, Cortex and Keil are registered trademarks of ARM Limited (or its subsidiaries) in the EU and/or elsewhere. ARM7 and ARM9 are trademarks of ARM Limited (or its subsidiaries) in the EU and/or elsewhere. All rights reserved. © 2015–2016 NXP B.V.

Document Number: LPCMICROLNCD REV 1