

Ponuka ARM mikrokontrolérov, bola u spoločnosti NXP rozšírená o novú rodinu v sérii LPC54000. Hlavnými črtami sú energetická efektívnosť a škálovateľnosť.

Mikrokontrolér série LPC54000 obsahuje okrem bežných low-power periférií navyše 12-bitový 12 kanálový ADC prevodník s kadenciou 5 Msps, SC-Timer, a DMIC (dual/stereo digital microphone interface).

Doterajšie čipy LPC54101 a LPC54102 boli rozšírené o I2S a USB čím vznikli nové mená: **LPC54113** a **LPC54114**.

Jadrom je 100 MHz ARM® Cortex®-M4F, dosahujúci v aktívnom režime spotrebu 80 µA/MHz. Pokiaľ je toto príliš veľa, je k dispozícii druhé jadro Cortex®-M0+ so spotrebou len 60 µA/MHz. Celý kremík je schopný prevádzky už od 1.62V. Dodávaná pamäť je v štandardných veľkostiach až do 512 kbit pre Flash a do 192 kbit pre RAM.

Ponuka výbavy:

| Part no.                                                                       | Max. clock speed (MHz) | Core<br>Cortex-M0+<br>coprocessor | Memory<br>Flash (kbit) | RAM (kbit) | Timers<br>Standard timers <sup>1</sup> | PWM channels <sup>2</sup> | State-configurable timer (SCTimer/PWM) <sup>3</sup> | Serial interfaces<br>UART <sup>4</sup> | I <sup>2</sup> C <sup>4</sup> | SPI <sup>4</sup> | I <sup>2</sup> S <sup>4</sup> | USB device | Analog<br>ADC channels /resolution | Sample rate | RTC | GPIO     | Supply voltage (V) | Temperature   |
|--------------------------------------------------------------------------------|------------------------|-----------------------------------|------------------------|------------|----------------------------------------|---------------------------|-----------------------------------------------------|----------------------------------------|-------------------------------|------------------|-------------------------------|------------|------------------------------------|-------------|-----|----------|--------------------|---------------|
| LPC54100 Family: streamlined features for always-on applications               |                        |                                   |                        |            |                                        |                           |                                                     |                                        |                               |                  |                               |            |                                    |             |     |          |                    |               |
| LPC54101                                                                       | 100                    | 0                                 | 256/512                | 104        | 15                                     | 6                         | 1                                                   | 4                                      | 3                             | 2                |                               |            | 12-ch./12 b                        | 5 Msps      | 1   | 50       | 1.62–3.6 V         | -40 to +85 °C |
| LPC54102                                                                       | 100                    | 1                                 | 256/512                | 104        | 15                                     | 6                         | 1                                                   | 4                                      | 3                             | 2                |                               |            | 12-ch./12 b                        | 5 Msps      | 1   | 50       | 1.62–3.6 V         | -40 to +85 °C |
| LPC54110 Family: power-efficient MCU with USB and digital microphone interface |                        |                                   |                        |            |                                        |                           |                                                     |                                        |                               |                  |                               |            |                                    |             |     |          |                    |               |
| LPC54113                                                                       | 100                    | 0                                 | 128/256                | up to 192  | 15                                     | 6                         | 1                                                   | 8                                      | 8                             | 8                | 2                             | 1          | 12-ch./12 b                        | 5 Msps      | 1   | up to 50 | 1.62–3.6 V         | -40 to +85 °C |
| LPC54114                                                                       | 100                    | 1                                 | 256                    | 192        | 15                                     | 6                         | 1                                                   | 8                                      | 8                             | 8                | 2                             | 1          | 12-ch./12 b                        | 5 Msps      | 1   | up to 50 | 1.62–3.6 V         | -40 to +85 °C |

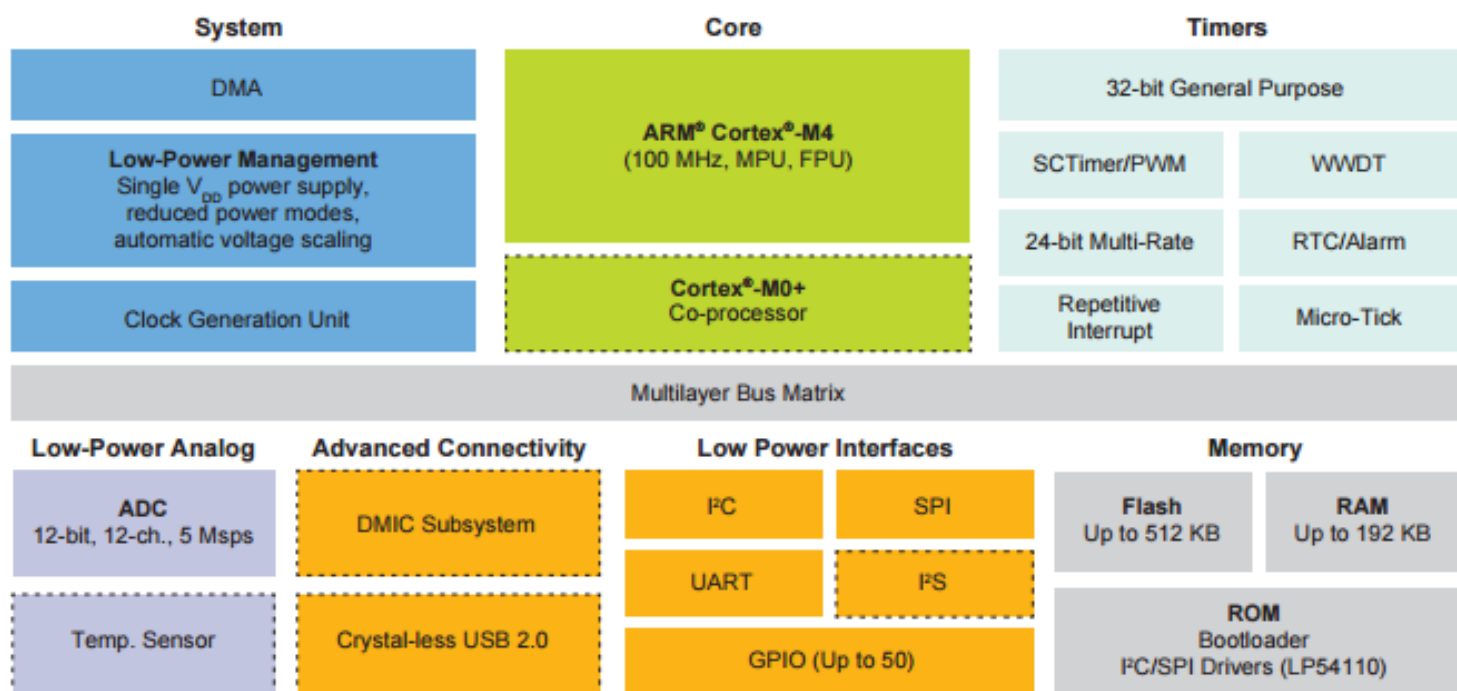
\*1 Includes 32-bit general-purpose timers, Watchdog timer, real-time alarm clock, repetitive-interrupt timer, systick timer, and SCTimer/PWM configured as two 16-bit timers

\*2 Includes use of SCTimer/PWM as PWM channels

\*3 SCTimer/PWM peripheral can be configured as additional timers and/or PWM channels

\*4 Designers have choice of any 8 from 8 UART, 8 I2C, 8 SPI, or 2 I2S

Blokové zapojenie



 Optional

Konkrétne objednávacie kódy pre tieto MCU a k nim odporúčané vývojové kity:

| Parts            | Core   | Flash (kbit) | RAM (kbit) | Crystal-less FS USB | Digital Microphone Subsystem | Package name | Recomm Develop Boa |
|------------------|--------|--------------|------------|---------------------|------------------------------|--------------|--------------------|
| LPC54113J128BD64 | M4     | 128          | 96         | Yes                 | Yes                          | LQFP64       | OM13               |
| LPC54113J256BD64 | M4     | 256          | 192        | Yes                 | Yes                          | LQFP64       | OM13               |
| LPC54113J256UK49 | M4     | 256          | 192        | Yes                 | Yes                          | WLCSP49      | OM13               |
| LPC54114J256BD64 | M4/M0+ | 256          | 192        | Yes                 | Yes                          | LQFP64       | OM13               |
| LPC54114J256UK49 | M4/M0+ | 256          | 192        | Yes                 | Yes                          | WLCSP49      | OM13               |
| LPC54101J256UK49 | M4     | 256          | 104        | No                  | No                           | WLCSP49      | OM13               |
| LPC54101J512UK49 | M4     | 512          | 104        | No                  | No                           | WLCSP49      | OM13               |
| LPC54101J256BD64 | M4     | 256          | 104        | No                  | No                           | LQFP64       | OM13               |
| LPC54101J512BD64 | M4     | 512          | 104        | No                  | No                           | LQFP64       | OM13               |
| LPC54102J256UK49 | M4/M0+ | 256          | 104        | No                  | No                           | WLCSP49      | OM13               |
| LPC54102J512UK49 | M4/M0+ | 512          | 104        | No                  | No                           | WLCSP49      | OM13               |
| LPC54102J256BD64 | M4/M0+ | 256          | 104        | No                  | No                           | LQFP64       | OM13               |
| LPC54102J512BD64 | M4/M0+ | 512          | 104        | No                  | No                           | LQFP64       | OM13               |

## Cena, dostupnosť

Vzorky by už mali byť dostupné. Plná produkcia je očakávaná niekedy v 05/2016.

Cena bude začínať od 2.36 USD @10K pcs

## Odkazy

[Stránka rodiny LPC54000](#)

Stránky produktov:

- [LPC54113J128BD64](#)
- [LPC54113J256BD64](#)
- [LPC54113J256UK49](#)
- [LPC54114J256BD64](#)
- [LPC54114J256UK49](#)

[Datasheet LPC5411x](#)

[LPC5411x User manual \(REV 1.0\)](#)

## Distribúcia

[vid'. Adresár](#)