New 8-pin STM8L MCUs
Saves power and cost

Ultra-low-power 8-bit microcontrollers now available in small S08 package!

Our ultra-low-power STM8L Value line is expanding to 8-pin packages for two new MCUs. The STM8L001J3 includes a basic feature set at an affordable price, while the STM8L050J3 offers advanced analog performance and a DMA controller. Both feature the same core processing speed, system control, memory size and communication peripherals.

Our new STM8L are housed in small and affordable industry-standard S08 package that is suitable for cost-sensitive applications.

**CORE AND SYSTEM**
- STM8 core at 16 MHz
- 1.8 to 3.6 V operating voltage
- -40 to 125 °C temperature range
- Internal system clocks from 38 kHz to 16 MHz
- Up to 6 I/Os
- Two 16-bit timers, one 8-bit timer

**MEMORIES**
- 8 Kbytes of Flash memory
- 256 bytes of separate data EEPROM
- 1.5 Kbyte of RAM

**CONNECTIVITY AND DEBUGGING**
- USART
- SPI
- I²C
- Single wire interface module

**ANALOG**
- 12-bit ADC (4 channels)
- Two comparators
- Real-time Clock

**DMA CONTROLLER**
- Direct memory-to-memory and peripheral-from/to-memory transfer

**STM8L VALUE LINE APPLICATIONS**
- Home automation
- Alarms
- Thermostats
- Small appliances and power tools
- Battery-supplied devices
- Lighting control
- Sensors control
- Healthcare and fitness smartwatches
- Toys and games
**STM8L050J3 BLOCK DIAGRAM**

<table>
<thead>
<tr>
<th>System</th>
<th>STM8CPU 16 MHz</th>
<th>Timers</th>
<th>Connectivité</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply 1.8 to 3.6 V (1.8 V internal regulator), POR / PDR / PVD / BOR, Internal RC oscillators 38 kHz or 1 to 16 MHz, Xtal oscillator 32 kHz or 1 to 16 MHz, Clock control, 2 x watchdogs (independent + window), Auto-wakeup, Real time clock (RTC)</td>
<td>2 x 16-bit timer, 1 x 8-bit timer, Infraed remote control</td>
<td>1 x USART (IrDA, smartcard) SPI, I²C</td>
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<tr>
<td>I/Os Up to 6 I/Os</td>
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<td>Connectivity</td>
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<td>Analog</td>
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<td>2 x comparators, 12-bit ADC (4 channels)</td>
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**SOFTWARE TOOLS**

The STMCube™ initiative is coming to the whole STM8 family! Our STM8CubeMX is a user-friendly software tool that significantly reduces development effort, time and cost. It includes an STM8 selector tool that finds the best MCU based on matching criteria or populating a given board. STM8CubeMX helps developers configure STM8 microcontrollers through a set of user-friendly graphical wizards:

- Pinout wizard helps resolve any potential pin allocation conflicts
- Clock-tree wizard helps ensure the clocks are properly configured
- Power-consumption calculator helps forecast power consumption scenarios

In addition, it is able to generate and store reports on device configurations and performance.

STM8CubeMX is available for Windows®, Linux® and macOS® operating systems.

**HARDWARE TOOLS**

A full set of evaluation boards enables flexible prototyping as well as full STM8L evaluation.

**Discovery kits**

STM8L-DISCOVERY and STM8-S08-DISCO®

**Evaluation boards**

STM8L1528-EVAL and STM8L101-EVAL

**Nucleo boards**

NUCLEO-8L152R8®

Note (*): Available in Q2-2018

**STM8L VALUE LINE PRODUCT PORTFOLIO**

Flash memory size / RAM size (bytes)

<table>
<thead>
<tr>
<th>Pin count</th>
<th>8-pin</th>
<th>20-pin</th>
<th>48-pin</th>
<th>64-pin</th>
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<tbody>
<tr>
<td>STM8L001J3</td>
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<tr>
<td>STM8L050J3</td>
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<td>STM8L052R8</td>
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</table>

**ST COMMUNITY**

[community.st.com/stm8](http://community.st.com/stm8)

Order code: FLSTM8LVL0218

For more information on ST products and solutions, visit [www.st.com/stm8lv](http://www.st.com/stm8lv)