ST52T420/E420
8-BIT INTELLIGENT CONTROLLER UNIT (ICU)
Three Timer/PWMs, ADC, WDG

Memories
- Up to 4 Kbytes OTP
- 128 bytes of RAM
- Readout Protection

Core
- Register File Based Architecture
- 55 instructions
- Hardware multiplication and division
- Decision Processor for the implementation of Fuzzy Logic algorithms

Clock and Power Supply
- Up to 20 MHz clock frequency.
- Power Saving features

Interrupts
- 5 interrupt vectors
- Top Level External Interrupt (INT)

I/O Ports
- 19 I/O PINs configurable in Input and Output mode
- High current sink/source in all pins.

Peripherals
- 3 Programmable 8-bit Timer/PWMs with internal 16-bit Prescaler featuring:
  - PWM output
  - Input capture
  - Output compare
  - Pulse generator mode
- On-chip 8-bit Sample and Hold A/D Converter with 8-channel analog multiplexer
- Watchdog timer

Development tools
- High level Software tools
- Emulator
- Low cost Programmer
- Gang Programmer

This is preliminary information on a new product foreseen to be developed. Details are subject to change without notice.
Figure 1. ST52x420 Block Diagram
Table 1. ST52x420 Devices Summary

<table>
<thead>
<tr>
<th>Device</th>
<th>NVM</th>
<th>RAM</th>
<th>Timers</th>
<th>Triac Driver</th>
<th>ADC</th>
<th>Analog Comp</th>
<th>SCI</th>
<th>Others</th>
<th>I/O</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST52T420G0py</td>
<td>1K OTP</td>
<td>128</td>
<td>3x8-bit</td>
<td>-</td>
<td>8-Ch</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>Dip/So 28</td>
</tr>
<tr>
<td>ST52T420G1py</td>
<td>2K OTP</td>
<td>128</td>
<td>3x8-bit</td>
<td>-</td>
<td>8-Ch</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>Dip/So 28</td>
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<tr>
<td>ST52T420G2py</td>
<td>4K OTP</td>
<td>128</td>
<td>3x8-bit</td>
<td>-</td>
<td>8-Ch</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>Dip/So 28</td>
</tr>
<tr>
<td>ST52E420G2D6</td>
<td>4K EPROM</td>
<td>128</td>
<td>3x8-bit</td>
<td>-</td>
<td>8-Ch</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>CDip 28</td>
</tr>
</tbody>
</table>

Table 2. ST52x420 Common Features

<table>
<thead>
<tr>
<th>COMMON FEATURES</th>
<th>ST52x420</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watchdog</td>
<td>Yes</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>From -40°C to +85°C</td>
</tr>
<tr>
<td>Operating Supply</td>
<td>3 - 5.5 V</td>
</tr>
<tr>
<td>CPU Frequency</td>
<td>Up to 20 MHz.</td>
</tr>
</tbody>
</table>

Legend:

Sales code: ST52tnnccmppy

Memory type (t): F=FLASH, T=OTP, E=EPROM

Subfamily (nnn): 400, 410, 420, 430, 440

Pin Count (c): Y=16 pins, F=20 pins, G=28 pins, K=32/34 pins, J=42/44 pins

Memory Size (m): 0=1 Kb, 1=2 Kb, 2=4 Kb, 3=8 Kb

Packages (p): B=PDIP, D=CDIP, M=PSO, T=TQFP

Temperature (y): 0=+25, 1=0 +70, 3=+40 +125, 5=+10 +85, 6=+40 +85, 7=+40 +105