**Key points**

- Use as a high-performance single board computer or add to a new or existing design
- Industrial temperature range (-40°C to 85°C)
- Customize with development kit

**Device connectivity**

- 3 UARTs, I²C, CAN, SPI
- 33 digital I/Os
- Eight 12-bit analog-to-digital converters (ADC)
- Eight pulse width modulators (PWM)

**Performance and memory**

- 32-bit 66 MHz processor
- 32KB SDRAM and 256KB Flash

**Companion development kit**

*The following is available with the development kit:*

- Customize any aspect of operation including data filtering, or custom applications
- Development software: NB Eclipse IDE, graphical debugger, deployment tools, and examples
- System software: NBRTOS, ANSI C/C++ compiler and linker
Specifications

Processor
32-bit Freescale ColdFire 5213 CPU running at 66MHz

Data I/O Interface (P1)
- Up to 3 UARTs
- Up to 1 I²C
- Up to 1 CAN 2.0b controller
- Up to 1 SPI
- Up to 33 digital I/O
- Up to eight 12-bit analog-to-digital converters (ADC)
- Up to 8 pulse width modulators (PWM)
- Up to 4 external timer in or outputs
- Up to 3 external IRQs
- Up to 4 general purpose timers (GPT)

Serial Configurations
The UARTs can be configured in the following way:
- Up to 3 TTL ports
- Add external level shifter for RS-232
- Add external level shifter for RS-422/485 (up to one port)

Note: UART 1 also provides RTS/CTS hardware handshaking signals.

Physical Characteristics
Form Factor: Industry Standard 40-pin DIP (two standard single row 20-pin 0.1" headers)
Dimensions: 2.24" x .700"

Power
DC Input Voltage: 5V – 7V, or 3.3V Regulated
Max Operating Current: 120mA

Environmental Operating Temperature
-40° to 85° C

RoHS Compliance
The Restriction of Hazardous Substances guidelines ensure that electronics are manufactured with fewer environment harming materials.

Part Numbers

MOD5213 Core Module
Part Number: MOD5213-100IR

MOD5213 Development Kit
Part Number: NNDK-MOD5213-KIT
Kit includes all the hardware and software you need to customize the included platform hardware. See NetBurner Store product page for package contents.

Ordering Information
E-mail: sales@netburner.com
Online Store: www.NetBurner.com
Telephone: 1-800-695-6828
The module has two 20-pin connectors that connect to one of our standard NetBurner development carrier boards, or a board you create on your own.
<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>High Level</th>
<th>Low Level</th>
</tr>
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<tbody>
<tr>
<td>28</td>
<td>General Purpose Timer 0 or PWM 1 Output Capture</td>
<td>3.3VDC</td>
<td>5-7VDC</td>
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<tr>
<td>29</td>
<td>PWM1</td>
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<td>5-7VDC</td>
</tr>
<tr>
<td>30</td>
<td>UART2_TX</td>
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<tr>
<td>31</td>
<td>UART2_RX</td>
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<td>UART2_RT</td>
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<tr>
<td>35</td>
<td>SPI_CLK</td>
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<td>SPI_CS0</td>
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<tr>
<td>37</td>
<td>SPI_CS1</td>
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<tr>
<td>38</td>
<td>SPI_CS2</td>
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<td>5-7VDC</td>
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<tr>
<td>39</td>
<td>Input Power 3.3 VDC</td>
<td>3.3VDC</td>
<td>Unregulated</td>
</tr>
<tr>
<td>40</td>
<td>Input Power 5-7 VDC</td>
<td>5-7VDC</td>
<td>Unregulated</td>
</tr>
</tbody>
</table>

**Note:**
1. SPI_CSx can be configured as active high or low.
2. Has an internal pull-up resistor; however, the use of an external resistor is very strongly recommended.
3. Active low signals, such as RESET, are indicated with an overbar.
4. SPI_CSx can be configured as active high or low.