

# MN1A7T0200

<b>Type</b>	<b>MN1A7T0200</b>
<b>ROM (×8-Bit / ×16-Bit / ×32-Bit)</b>	Max 16 M in total
<b>RAM (×8-Bit / ×16-Bit / ×32-Bit)</b>	External ROM and RAM
<b>Minimum Instruction Execution Time</b>	<b>100 ns (at 2.3 V to 2.7 V, 20 MHz)</b>
<b>Interrupts</b>	<ul style="list-style-type: none"> <li>• RESET • IRQ0 to 5 • NMI • Timer 0 to 9 Underflow • Timer 8 to 9 Compare Capture A</li> <li>• Timer 8 to 9 Compare Capture B • Serial ch 0 to 2 Transmission • Serial ch 0 to 2 Reception</li> <li>• Serial ch 0 to 2 in Communication State • Serial ch 0 to 2 Modem Status • Serial ch 0 to 2 Character</li> <li>• Serial ch 3 to 4 Transmission • Serial ch 3 to 4 Reception • WDT • A/D Conversion finish</li> </ul>
<b>Timer Counter</b>	<p><b>Timer Counter 0 : 16-Bit × 1</b> (Interval Timer, Event Count, Interrupt, A/D Conversion Trigger)</p> <p>Clock Source . . . . . PS0 Underflow, PS1 Underflow, External Clock</p> <p>Interrupt Source . . . . . Timer Counter 0 Underflow</p> <p><b>Timer Counter 1 to 6. 16-Bit × 1</b> (Interval Timer, Event Count, Timer Output, Interrupt)</p> <p>Clock Source . . . . . PS0 Underflow, PS1 Underflow, External Clock</p> <p>Interrupt Source . . . . . Timer Counter 1, 2, 3, 4, 5 or 6 Underflow</p> <p><b>Timer Counter 7: 16-Bit × 1</b> (Interval Timer, Event Count, Timer Output, Interrupt)</p> <p>Clock Source . . . . . PS0 Underflow, PS1 Underflow, External Clock Input, Timer 6 Cascade Input</p> <p>Interrupt Source . . . . . Timer Counter 7 Underflow</p> <p>* Timer Counter 6 or 7 can be Changed in Configuration into a 32-Bit Timer Counter</p> <p><b>Timer Counter 8: 16-Bit × 1</b> (Interval Timer, Event Count, Output Compare, PWM Output, One-Shot Output, Input Capture, Interrupt)</p> <p>Clock Source . . . . . PS0 Underflow, PS1 Underflow and External Clock Input</p> <p>Interrupt Source . . . . . Timer Counter 8 Underflow, Agreement with Compare Capture A (or Capture), Agreement with Compare Capture B (or Capture)</p> <p><b>Timer Counter 9: 16-Bit × 1</b> (Interval Timer, Event Count, Output Compare, PWM Output, One-Shot Output)</p> <p>Clock Source . . . . . PS0 Underflow, PS1 Underflow, External Clock Input</p> <p>Interrupt Source . . . . . Timer Counter 9 Underflow, Agreement with Compare Capture A (or Capture), Agreement with Compare Capture B (or Capture)</p> <p><b>Two pre-scaler counters</b></p>
<b>Serial Interface</b>	<p><b>Serial 0, 1, 2 (UART): 5-, 6-, 7-, 8-Bit × 3</b></p> <p>Clock Source . . . . . Baud Rate Generator, IOCLKH, External Clock</p> <p><b>Serial 3, 4 (SSI): 4- to 16-Bit × 2</b></p> <p>Clock Source . . . . . IOCLKH, External Clock</p>
<b>I/O Pins</b>   I/O	<b>40</b> • Common use 40
<b>A/D</b>	10-Bit × 8ch
<b>PWM</b>	16-Bit × 2ch
<b>ICR</b>	16-Bit × 2ch
<b>OCR</b>	16-Bit × 2ch
<b>Package</b>	FLGA152-C-1111

Electrical Characteristics

A/D Characteristic

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Resolution					10	Bits
A/D Conversion Absolute Precision		VREFH = 3.0 V VREFL = 0.0 V A/D Conversion Clock = 6 MHz			±5	LSB
A/D Conversion Relative Precision					±5	LSB
A/D conversion time			2.0		24	μs

(Ta = 25 °C, AVDD = 3.0 V, AVSS = 0.0 V)

Support Tool

In-Circuit Emulator

Multi-ICE (ARM product), Partner ET-II (KMC product) (applicable to 16- or 8-Bit pass mode),  
Advice (YDC product) (applicable to 16- or 8-Bit pass mode)

Pin Assignment

Perspective view

