

# MN101C29D / CF29D

<b>Type</b>		<b>MN101C29D (under development) / CF29D</b>	
<b>ROM (×8-Bit)</b>		64 K / 64 K (built-in flash EEPROM)	
<b>RAM (×8-Bit)</b>		1 536 / 1 536	
<b>Minimum Instruction Execution Time</b>		<b>0.10 μs (at 4.5 V to 5.5 V, 20 MHz)</b>	
<b>Interrupts</b>		<ul style="list-style-type: none"> <li>• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • External 4 • External 5</li> <li>• Timer 2 • Timer 3 • Timer 6 • Time Base • Timer 8 (2 systems) • Serial 2 • Key Interrupts (8 lines)</li> </ul>	
<b>Timer Counter</b>		<p><b>Timer Counter 2 : 8-Bit × 1</b> (Square-Wave Output[Timer Pulse Output], PWM Output, Event Count, Timer Synchronous Output, Simple Pulse Width Measurement Function)</p> <p>Clock Source . 1/2, 1/4 of System Clock, 1/1, 1/4, 1/16, 1/32, 1/64 of OSC Oscillation Clock, 1/1 of XI Oscillation Clock, External Clock Input</p> <p><b>Timer Counter 3 : 8-Bit × 1</b> (Square-Wave Output[Timer Pulse Output], Event Count, Remote Control Carrier Output)</p> <p>Clock Source 1/2, 1/8 of System Clock, 1/1, 1/4, 1/16, 1/64, 1/128 of OSC Oscillation Clock, 1/1 of XI Oscillation Clock, External Clock Input</p> <p><b>Timer Counter 2, 3 can be cascade-connected.</b></p> <p><b>Time Base Timer</b></p> <p>Clock Source 1/1, 1/2<sup>7</sup>, 1/2<sup>8</sup>, 1/2<sup>9</sup>, 1/2<sup>10</sup>, 1/2<sup>13</sup>, 1/2<sup>15</sup> of OSC Oscillation Clock, 1/1, 1/2<sup>7</sup>, 1/2<sup>8</sup>, 1/2<sup>9</sup>, 1/2<sup>10</sup>, 1/2<sup>13</sup>, 1/2<sup>15</sup> of XI Oscillation Clock</p> <p><b>Timer Counter 6 : 8-Bit × 1</b> Freerun Timer</p> <p>Clock Source 1/1 of System Clock, 1/1, 1/2<sup>7</sup>, 1/2<sup>13</sup> of OSC Oscillation Clock, 1/1, 1/2<sup>7</sup>, 1/2<sup>13</sup> of XI Oscillation Clock</p> <p><b>Timer Counter 8 : 16-Bit × 1</b></p> <p>Clock Source Either of System Clock, OSC Oscillation Clock, External Clock 1 or External Clock 2 Divided Into 1/1, 1/2, 1/4 and 1/16 (Hardware Configuration) Double Buffer Type Compare Register × 2 Input Capture Register × 1 (Timer Functions) Square-Wave Output (Timer Pulse Output), PWM Output (Duty Continuously Variable), Event Count, Simple Pulse Width Measurement Function and Input Capture Function</p> <p><b>Watchdog Timer</b></p> <p>Interrupt Source .. Runaway Detection Frequency Selection from 1/2<sup>15</sup>, 1/2<sup>18</sup> and 1/2<sup>20</sup> of System Clock</p>	
<b>Serial Interface</b>		<p><b>Serial 2 : 8-Bit × 1</b> (synchronous)</p> <p>Synchronization method (MSB or LSB first selectable, 1 to 8 bits arbitrary transmission)</p> <p>Transfer Clock Source . 1/2, 1/4 of System Clock, 1/2, 1/4, 1/16, 1/32 of OSC Oscillation Clock, 1/1, 1/3 of Timer Counter 2 and 3</p>	
<b>Multiplication/Division functions</b>		<p>Signed/unsigned 16-Bit × 16-Bit Arithmetic Operation (Execution in 15 Cycles)</p> <p>Unsigned 32-Bit ÷ 16-Bit Arithmetic Operation (Execution in 17 Cycles)</p>	
<b>I/O Pins</b>	<b>I/O</b>	<b>53</b>	• Common use 48 • Specified pull-up Resistor available • Input/Output selectable (bit unit)
	<b>Input</b>	<b>2</b>	• Common use: 1

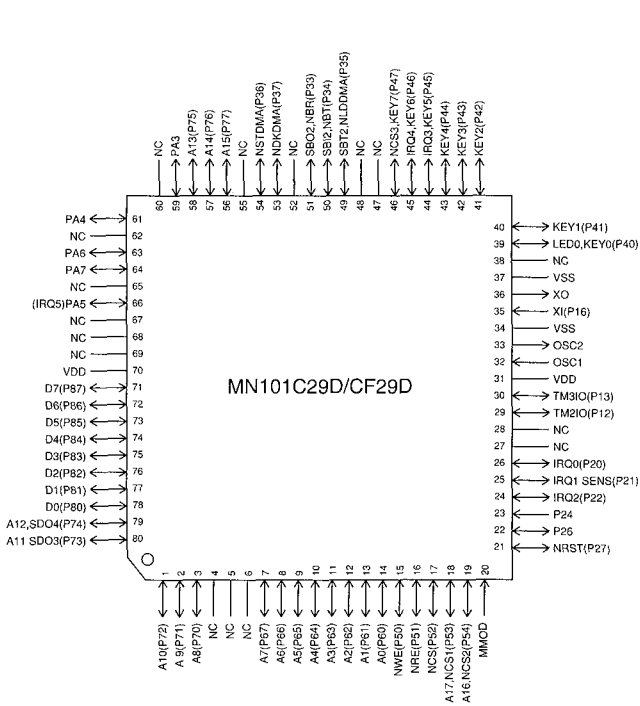
<b>Special Ports</b>	High-Current Drive Port × 1
<b>Package</b>	LQFP080-P-1414A, LQFP064-P-1414 (under planning)
<b>Electrical Characteristics</b>	

**Supply Current**

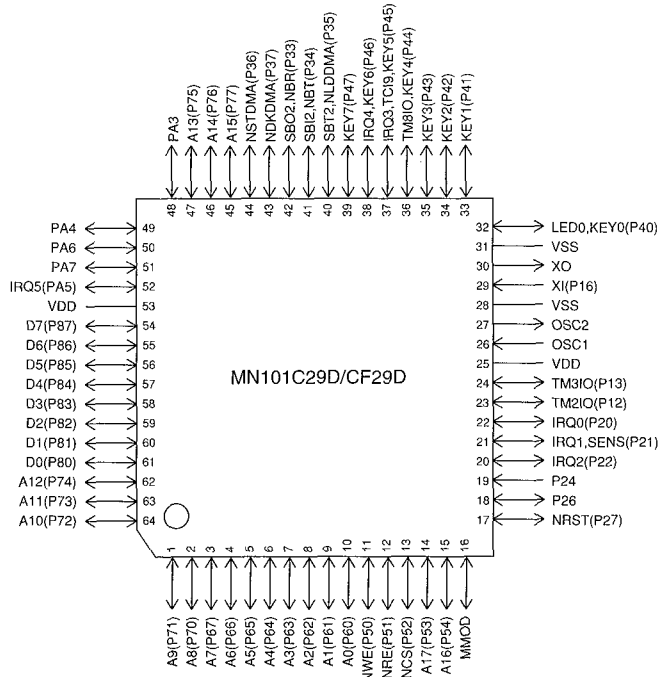
Parameter	Symbol	Condition	Limit			
			min	typ	max	Unit
Operating Supply Current	IDD1	fosc = 20 MHz, VDD = 5 V			60	mA
Supply Current at STOP	IDD2	VDD = 5 V			10	μA

**Support Tool**

<b>In-Circuit Emulator</b>	PX-ICE101C / D + PX-PRB101C29-C / D
<b>Pin Assignment</b>	



LQFP080-P-1414A



LQFP064-P-1414 (under planning)