

# □ MN101C35D

Type	MN101C35D
ROM (x8-bit)	64 K
RAM (x8-bit)	2 K
Package	QFP100-P-1818B *Lead-free
Minimum Instruction Execution Time	0.25 μs (at 2.7 V to 5.5 V, 8 MHz) 125 μs (at 2.2 V to 5.5 V, 32 kHz)* * The lower limit for operation guarantee for EPROM built-in type is 2.7 V.
Interrupts	• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • External 4 • Timer 0 • Timer 1 • Timer 2 • Timer 3 • Timer 4 • Timer 5 • Time base • Serial 0 • Serial 1 • Serial 2 • Automatic transfer finish • A/D conversion finish • Key scan
Timer Counter	<p>Timer counter 0 : 8-bit × 1 (square-wave/8-bit PWM output, event count, generation of remote control carrier) Clock source ..... 1/1, 1/4 of system clock frequency; 1/1 of OSC oscillation clock frequency; external clock input Interrupt source ..... coincidence with compare register 0</p> <p>Timer counter 1 : 8-bit × 1 (square-wave output, event count, synchronous output event) Clock source ..... 1/16, 1/64 of system clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source ..... coincidence with compare register 1</p> <p>Timer counter 0, 1 can be cascade-connected.</p> <p>Timer counter 2 : 8-bit × 1 (square-wave/8-bit PWM output, event count, synchronous output event) Clock source ..... 1/1, 1/4 of system clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source ..... coincidence with compare register 2</p> <p>Timer counter 3 : 8-bit × 1 (square-wave output, event count, generation of remote control carrier, serial 0 baud rate timer) Clock source ..... 1/4, 1/16 of system clock frequency; 1/1 of OSC oscillation clock frequency; external clock input Interrupt source ..... coincidence with compare register 3</p> <p>Timer counter 2, 3 can be cascade-connected.</p> <p>Timer counter 4 : 16-bit × 1 (square-wave/16-bit PWM output, event count, synchronous output event, input capture) Clock source ..... 1/4, 1/16 of system clock frequency; 1/1 of OSC oscillation clock frequency; external clock input Interrupt source ..... coincidence with compare register 4</p> <p>Time base timer (one-minute count setting, independently operable 8-bit timer counter 5) Clock source ..... 1/4 of system clock frequency; 1/1, 1/8192 of OSC oscillation clock frequency; 1/1, 1/8192 of XI oscillation clock frequency Interrupt source ..... coincidence with compare register 5; 1/8192 prescaler overflow</p> <p>Watchdog timer Interrupt source ..... 1/2097152 of system clock frequency</p>
Serial Interface	<p>Serial 0 : synchronous type/simple UART (half-duplex) × 1 Clock source ..... 1/2, 1/4, 1/16 of system clock frequency; 1/2 of timer counter 3 frequency</p> <p>Serial 1 : synchronous type × 1 Clock source ..... 1/2, 1/8, 1/64 of system clock frequency; 1/2 of timer counter 3 frequency</p> <p>Serial 2 : synchronous type/simple I<sup>2</sup>C × 1 Clock source ..... 1/1, 1/2, 1/4 of system clock frequency; 1/2 of timer counter 0 frequency</p>

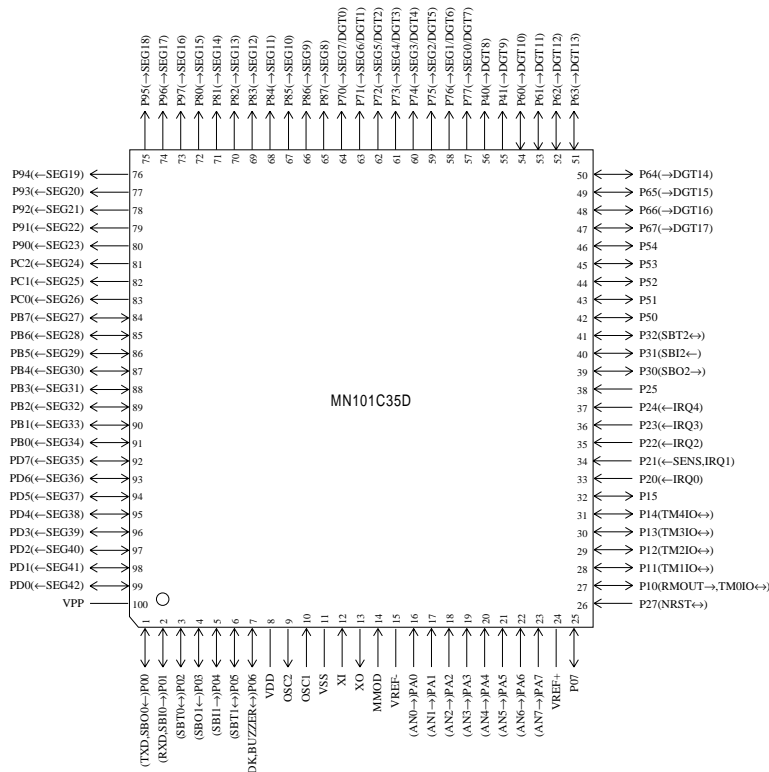
I/O Pins	I/O	36	• Common use : 28 • Specified pull-up resistor available • Input/output selectable (bit unit)
	High Voltage	53	• Output: 29 • I/O: 24 • P-ch open drain (breakdown voltage –30V): FL drive: 53 • Specified pull-down resistor mask option: 35
A/D Inputs	8-bit × 8-ch. (with S/H)		
FL	(35 to 43) segments × (18 to 10) digits		
Special Ports	Buzzer output, remote control carrier signal output		

**Electrical Characteristics**

**Supply current**

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 8 MHz, VDD = 5 V			25	mA
	IDD2	fx = 32 kHz, VDD = 3 V			120	μA
Supply current at HALT	IDD3	fx = 32 kHz, VDD = 3 V			10	μA
Supply current at STOP	IDD4	VDD = 3 V			10	μA

**Pin Assignment**



QFP100-P-1818B \*Lead-free

See the next page for support tool.

## Support Tool

<b>In-circuit Emulator</b>	PX-ICE101C / D + PX-PRB101C35-QFP100-P-1818B	
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	ROM (× 8-bit)	64 K
	RAM (× 8-bit)	2 K
	Minimum instruction execution time	0.25 μs (at 2.7 V to 5.5 V, 8 MHz)
		125 μs (at 2.7 V to 5.5 V, 32 kHz)
	Package	QFP100-P-1818B *Lead-free



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