

MN101C109 , MN101C10A

Type		MN101C109 , MN101C10A	
ROM (×8-Bit)		24 K / 32 K (External memory can be expanded)	
RAM (×8-Bit)		1 024 / 1 536 (External memory can be expanded)	
Minimum Instruction Execution Time		0.10 μs (at 4.5 V to 5.5 V, 20 MHz) 0.25 μs (at 2.7 V to 5.5 V, 8 MHz) 1.00 μs (at 2.0 V to 5.5 V, 2 MHz)* 125 μs (at 2.0 V to 5.5 V, 32 kHz)*	
* The lower limit for operation guarantee for EPROM built-in version 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 • Automatic Transfer finish • A/D Conversion finish	
Timer Counter		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, 1/1 of OSC Oscillation Clock, External Clock Input Interrupt Source Coincidence with Compare Register 0 Timer Counter 1 : 8-Bit × 1 (Square-Wave Output, Event Count, Synchronous Output Event) Clock Source 1/1, 1/64 of System Clock, 1/1 of XI Oscillation Clock, External Clock Input Interrupt Source Coincidence with Compare Register 1 Timer Counter 0, 1 can be cascade-connected. 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, 1/1 of XI Oscillation Clock, External Clock Input Interrupt Source Coincidence with Compare Register 2 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, 1/1 of OSC Oscillation Clock, External Clock Input Interrupt Source Coincidence with Compare Register 3 Timer Counter 2, 3 can be cascade-connected. 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, 1/1 of OSC Oscillation Clock, External Clock Input Interrupt Source Coincidence with Compare Register 4 Time Base Timer (One-Minute Count Setting, Independently operable 8-Bit Timer Counter 5) Clock Source 1/4 of System Clock, 1/1, 1/8192 of OSC Oscillation Clock, 1/1, 1/8192 of XI Oscillation Clock Interrupt Source Coincidence with Compare Register 5, 1/8192 Prescaler Overflow Watchdog Timer Interrupt Source 1/65536, 1/262144, 1/1048576 of System Clock (ROM Option)	
Serial Interface		Serial 0 : 8-Bit × 1 (Synchronous Type/Simple UART[Half-Duplex]) Clock Source 1/2, 1/4, 1/16 of System Clock 1/2 of Timer Counter 3 Serial 1 : 8-Bit × 1 (Synchronous Type) Clock Source 1/2, 1/8, 1/64 of System Clock 1/2 of Timer Counter 3	
I/O Pins	I/O	41	• Common use • Specified pull-up Resistor available • Input/Output selectable (bit unit)
	Input	13	• Common use • Specified pull-up Resistor available

A/D Inputs	10-Bit × 8ch (with S/H)
Special Ports	Buzzer Output, Remote Control Carrier Signal Output, High-Current Drive Port
Package	LQFP064-P-1414
Electrical Characteristics	

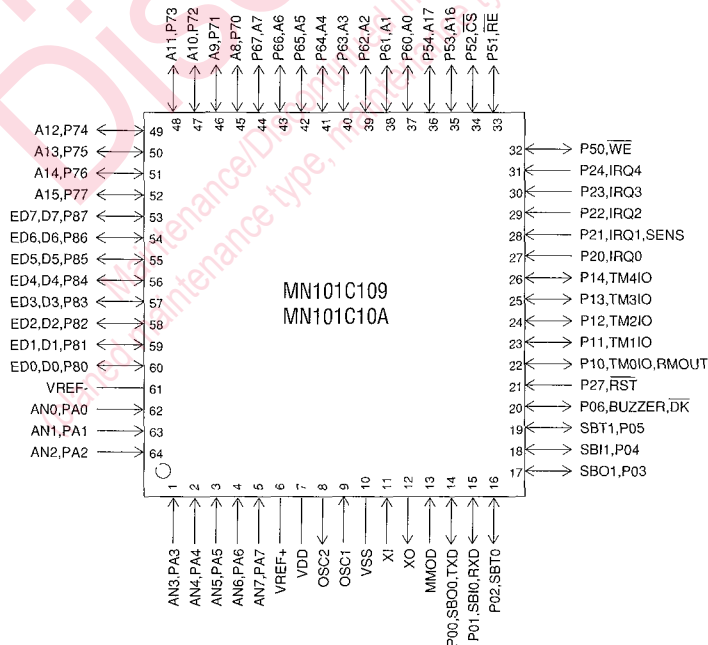
Supply Current

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc = 20 MHz, VDD = 5 V			60	mA
	IDD2	fx = 32 kHz, VDD = 3 V			100	μA
Supply Current at HALT	IDD3	fx = 32 kHz, VDD = 3 V, Ta = 25 °C			8	μA
		fx = 32 kHz, VDD = 3 V, Ta = 85 °C			18	μA
Supply Current at STOP	IDD4	VDD = 5 V, Ta = 25 °C			2	μA
		VDD = 5 V, Ta = -40 °C to +85 °C			20	μA

Support Tool

In-Circuit Emulator	PX-ICE101C / D + PX-PRB101C10-C / D	
EPROM built-in Type	Type	MN101CP10ABL
	ROM (× 8-Bit)	32 K
	RAM (× 8-Bit)	1 536
	Minimum Instruction Execution Time	0.10 μs (at 4.5 V to 5.5 V, 20 MHz)
		0.25 μs (at 2.7 V to 5.5 V, 8 MHz)
	Package	LQFP064-P-1414

Pin Assignment



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