

MN101C20A / 20C

Type	MN101C20A (under planning) / 20C (under development)
ROM (x8-bit)	32K/48K (External memory can be expanded)
RAM (x8-bit)	1792/1792 (External memory can be expanded)
Minimum Instruction Execution Time	0.25 μs (at 2.7 to 5.5V, 8MHz) 125 μs (at 2.0 to 5.5V, 32kHz)
Interrupts	• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • External 4 • Timer 0 • Timer 1 • Timer 3 • Timer 6 • Timer 7 • Timer 8 • Time Base • Serial 0 • Serial 2 • A/D Conversion finish
Timer Counter	Timer Counter 0 : 8-bit x 1 (Square-wave/8-bit PWM Output, Event Count, Generation of Remote Control Carrier, Pulse Width Measurement) 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 Interrupt Source . . . Coincidence with Compare Register 0 Timer Counter 1 : 8-bit x 1 (Square-wave Output, Event Count, Synchronous Output Event) Clock Source . . . 1/2, 1/8 of System Clock, 1/1, 1/4, 1/16, 1/64, 1/128 of OSC Oscillation Clock, External Clock Input Interrupt Source . . . Coincidence with Compare Register 1 Timer Counter 0, 1 can be cascade-connected. Timer Counter 3 : 8-bit x 1 (Square-wave Output, Event Count, Generation of Remote Control Carrier) 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 Interrupt Source . . . Coincidence with Compare Register 3 Timer Counter 6 : 8-bit x 1 Freerun Timer Clock Source . . . 1/1 of System Clock, 1/1, 1/4096, 1/8192 of OSC Oscillation Clock, 1/1, 1/4096, 1/8192 of XI Oscillation Clock Interrupt Source . . . Coincidence with Compare Register 6 Timer Counter 7 : 16-bit x 1 (Square-wave/16-bit PWM Output, Cycle/Duty continuous variable, Event Count, Synchronous Output Event, Pulse Width Measurement, Input Capture) Clock Source . . . 1/1, 1/2, 1/4, 1/16 of System Clock, 1/1, 1/2, 1/4, 1/16 of OSC Oscillation Clock, 1/1, 1/2, 1/4, 1/16 of External Clock Input Interrupt Source . . . Coincidence with Compare Register 7 (2 lines) Timer Counter 8 : 16-bit x 1 (Square-wave/16-bit PWM Output, Event Count, Pulse Width Measurement, Input Capture) Clock Source . . . 1/1, 1/2, 1/4, 1/16 of System Clock, 1/1, 1/2, 1/4, 1/16 of OSC Oscillation Clock, 1/1, 1/2, 1/4, 1/16, of External Clock Input Interrupt Source . . . Coincidence with Compare Register 8 (2 lines) Time Base Timer (One-minute Count Setting) Clock Source . . . 1/1 of OSC Oscillation Clock, 1/1 of XI Oscillation Clock Interrupt Source . . . 1/128, 1/256, 1/512, 1/1024, 1/8192, 1/32768 of Clock Source Watchdog Timer Interrupt Source . . . 1/65536, 1/262144, 1/1048576 of System Clock

Serial Interface			Serial 0 : 8-bit x 1 (Synchronous Type / UART[Full-duplex]) Clock Source 1/2, 1/4 of System Clock Pulse Output of Timer Counter 3 1/2, 1/4, 1/16, 1/32 of OSC Oscillation Clock Serial 2 : 8-bit x 1 (Synchronous Type) Clock Source 1/2, 1/4 of System Clock Pulse Output of Timer Counter 3 1/2, 1/4, 1/16, 1/32 of OSC Oscillation Clock
I/O Pins	I/O	74	• Common use • Specified pull-up Resistor available • Input/Output selectable (bit unit)
	Input	5	• Common use • Specified pull-up Resistor available
A/D Inputs			10-bit x 8ch (with S/H)
LCD			Function1 • 32 segment • 4 Common • Static • 1/2, 1/3, 1/4 duty Function2 • 7 segment • 1 Common • Static
Special Ports			Buzzer Output, Remote Control Carrier Signal Output, High-current Drive Port (N-ch open-drain type)
Package			LQFP100-P-1414
Electrical Characteristics			

Supply Current

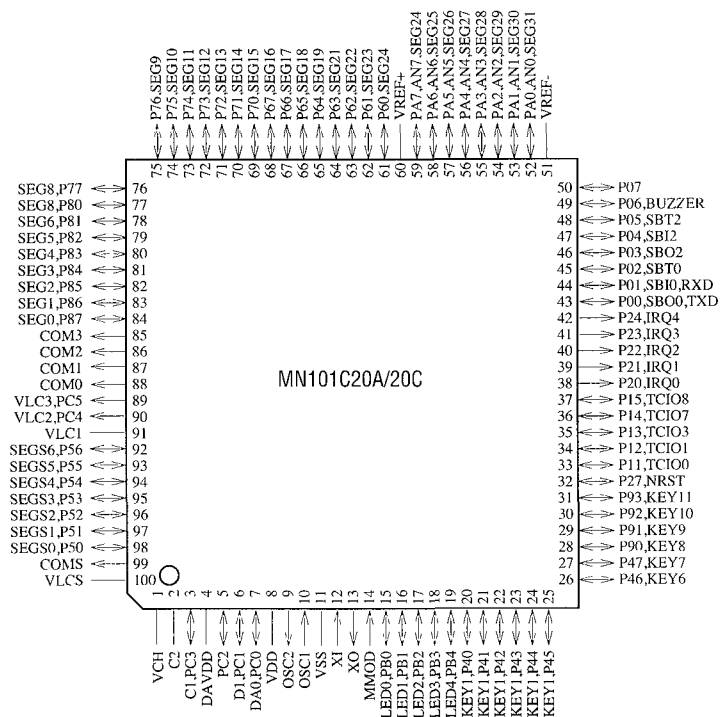
Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating Supply Current	IDD1	fosc = 8MHz, VDD = 5V		10	25	mA
	IDD2	fx = 32kHz, VDD = 3V		30	100	μA
Supply Current at HALT	IDD3	fx = 32kHz, VDD = 3V, Ta = 25°C			8	μA
	IDD4	fx = 32kHz, VDD = 3V, Ta = -40 to +85°C			24	μA
Supply Current at STOP	IDD5	VDD = 5V, Ta = 25°C			1	μA
		VDD = 5V, Ta = -40 to +85°C			20	μA

Support Tool

In-Circuit Emulator		PX-ICE101A / C + PX-PRB101C20-A / C
EPROM built-in Type	Type	MN101CP20C (under development)
	ROM (x 8-bit)	48K
	RAM (x 8-bit)	1792
	Minimum Instruction Execution Time	0.25μs (at 2.7 to 5.5V, 8MHz) 125μs (at 2.7 to 5.5V, 32kHz)
	Package	LQFP100-P-1414

See the next page for pin assignment.

Pin Assignment



LQFP100-P-1414