

❑ **MN101C145 / 147**

Type	MN101C145 / 147 (all under development)		
ROM (x8-bit)	8K/16K (External memory can be expanded)		
RAM (x8-bit)	256/512 (External memory can be expanded)		
Minimum Instruction Execution Time	0.10 μs (at 4.5 to 5.5V, 20MHz) 0.25 μs (at 2.7 to 5.5V, 8MHz) 1.00 μs (at 2.0 to 5.5V, 2MHz)* 125 μs (at 2.0 to 5.5V, 32kHz)* * The lower limit for operation guarantee for EPROM built-in version is 2.7V.		
Interrupts	• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • External 4 • Timer 2 • Timer 3 • Timer 4 • Timer 5 • Clock Timer • Serial 0 • Automatic Transfer finish • A/D Conversion finish		
Timer Counter	Timer Counter 2 : 8-bit x 1 (Square-wave/8-bit PWM Output, Event Count, Generation of Remote Control Carrier) Clock Source1/1, 1/4 of System Clock, 1/1 of XI Oscillation Clock, External Clock Input Interrupt SourceCoincidence with Compare Register 2 Timer Counter 3 : 8-bit x 1 (Square-wave Output, Event Count, Generation of Remote Control Carrier, Serial 0 Baud Rate Timer) Clock Source1/4, 1/16 of System Clock, 1/1 of OSC Oscillation Clock, External Clock Input Interrupt SourceCoincidence with Compare Register 3 Timer Counter 2, 3 can be cascade-connected. Timer Counter 4 : 16-bit x 1 (Square-wave/16-bit PWM Output, Event Count, Synchronous Output Event, Input Capture) Clock Source1/4, 1/16 of System Clock, 1/1 of OSC Oscillation Clock, External Clock Input Interrupt SourceCoincidence with Compare Register 4 Time Base Timer (One-minute Count Setting, Five independently operable 8-bit Timer Counter) Clock Source1/4 of System Clock, 1/1, 1/8192 of OSC Oscillation Clock, 1/1, 1/8192 of XI Oscillation Clock Interrupt SourceCoincidence with Compare Register 5, 1/8192 Prescaler Overflow Watchdog Timer Clock Source1/65536, 1/262144, 1/1048576 of System Clock (ROM Option)		
Serial Interface	Serial 0 : 8-bit x 1 [Synchronous Type/Simple UART(Half-duplex)] Clock Source1/2, 1/4, 1/16 of System Clock 1/2 of Timer Counter 3		
I/O Pins	I/O	41	• Common use : 37 • Specified pull-up Resistor available • Input/Output selectable (bit unit)
	Input	13	• Common use • Specified pull-up Resistor available

A/D Inputs	10-bit x 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 = 20MHz, VDD = 5V			60	mA
	IDD2	fx = 32kHz, VDD = 3V			100	μA
Supply Current at HALT	IDD3	fx = 32kHz, VDD = 3V			8	μA
Supply Current at STOP	IDD4	VDD = 5V, Ta = 25°C			1	μA
		VDD = 5V, Ta = -40~85°C			30	μA

Support Tool

In-Circuit Emulator	PX-ICE101C + PX-PRB101C027
EPROM built-in Type	Use MN101CP147 [ES (Engineering Sample) available] in LQFP064-P-1414 package.
Pin Assignment	

