

■ MN101C15A / 15C / 15D / 15E / F15F / 15F / 15L

Type		MN101C015A / 15C / 15D / 15E / F15F / 15F / 15L (all under development)	
ROM (x8-bit)		32K/48K/64K/96K/96K(flash)/96K/96K (External memory can be expanded)	
RAM (x8-bit)		1536/2048/2048/4096/4096/4096/10240 (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)*2 1.00 μs (at 2.0 to 5.5V, 2MHz)*1, 2 125 μs (at 2.0 to 5.5V, 32kHz)*1, 2 *1 The lower limit for operation guarantee for EPROM built-in version is 2.7V. *2 4.5 to 5.5V for MN101CF15F	
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 • Clock Timer • Serial 0 • Serial 1 • Serial 2 • Automatic Transfer finish • 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) Clock Source1/1, 1/4 of System Clock, 1/1 of OSC Oscillation Clock, External Clock Input Interrupt SourceCoincidence with Compare Register 0 Timer Counter 1 : 8-bit x 1 (Square-wave Output, Event Count, Synchronous Output Event) Clock Source1/16, 1/64 of System Clock, 1/1 of XI Oscillation Clock, External Clock Input Interrupt SourceCoincidence with Compare Register 1 Timer Counter 0, 1 can be cascade-connected. Timer Counter 2 : 8-bit x 1 (Square-wave/8-bit PWM Output, Event Count, Synchronous Output Event) 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 Serial 1 : 8-bit x 1 (Synchronous Type) Clock Source1/2, 1/8, 1/64 of System Clock 1/2 of Timer Counter 3 Serial 2 : 8-bit x 1 (Synchronous Type/Simple I ² C) Clock Source1/1, 1/2, 1/4 of System Clock 1/2 of Timer Counter 0	
I/O Pins	I/O	57	• Common use • Specified pull-up Resistor available • Input/Output selectable (bit unit)
	Input	13	• Common use • Specified pull-up Resistor available

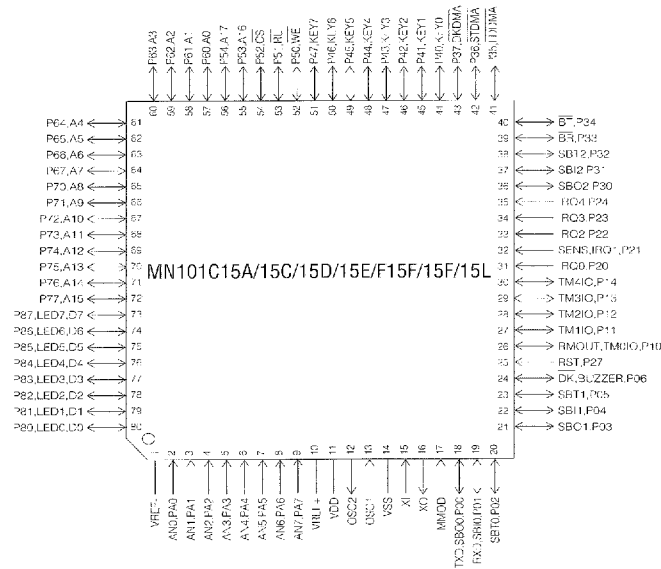
A/D Inputs	10-bit x 8ch (with S/H)
Special Ports	Buzzer Output, Remote Control Carrier Signal Output, High-current Drive Port
Package	LQFP080-P-1414A
Electrical Characteristics	

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, Ta = 25°C			8	μA
		fx = 32kHz, VDD = 3V, Ta = 85°C			20	μA
Supply Current at STOP	IDD4	VDD = 5V, Ta = 25°C			1	μA
		VDD = 5V, Ta = 85°C			30	μA

Support Tool

In-Circuit Emulator	PX-ICE101C + PX-PRB101C15F
EPROM built-in Type	Use MN101CP15F/15L [ES (Engineering Sample) available] in LQFP080-P-1414A package.
Pin Assignment	



LQFP080-P-1414A