

# □ MN101C94A

Type	MN101C94A	MN101CF94D
Internal ROM type	Mask ROM	FLASH
ROM (byte)	32K	64K
RAM (byte)	1K	2K
Package (Lead-free)	QFP044-P-1010F	
Minimum Instruction Execution Time	0.10 μs (at 4.5 V to 5.5 V, 20 MHz) 0.238 μs (at 2.7 V to 5.5 V, 8.39 MHz) 0.477 μs (at 2.0 V to 5.5 V, 4.19 MHz)* * The lower limit for operation guarantee for flash memory built-in type is 2.5 V.	

## ■ Interrupts

RESET, Watchdog, External 0 to 2, Timer 0 to 5, Time base, Serial 0, 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 frequency; 1/1 of OSC oscillation clock frequency; 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..... 1/16, 1/64 of system clock frequency; 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 frequency; 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 frequency; 1/1 of OSC oscillation clock frequency; 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 frequency; 1/1 of OSC oscillation clock frequency; 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 frequency; 1/1, 1/8192 of OSC oscillation clock frequency

Interrupt source ..... coincidence with compare register 5; 1/8192 prescaler overflow

Watchdog timer

Interrupt source ..... 1/1048576 of system clock frequency

## ■ Serial interface

Serial 0 : synchronous type/simple UART (half-duplex) × 1

Clock source..... 1/2, 1/4, 1/16 of system clock frequency; output of timer counter 3

## ■ I/O Pins

I/O	26	Common use : 17, Specified pull-up resistor available Input/output selectable (bit unit) : 26
Input	11	Common use, Specified pull-up resistor available

## ■ A/D converter

10-bit × 8-ch. (with S/H)

## ■ Special Ports

Buzzer output, remote control carrier signal output, high-current drive port

■ Electrical Characteristics (Supply current)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 20 MHz , VDD = 5 V		15	40	mA
	IDD2	fosc = 8.39 MHz , VDD = 5 V		6	18	mA
Supply current at HALT	IDD3	fosc = 8.39 MHz , VDD = 5 V , Ta = 25°C		1.2	3	mA
Supply current at STOP	IDD4	VDD = 5 V , Ta = 25°C			2	μA
	IDD5	VDD = 5 V , Ta = -40°C to +85°C			20 (50)	μA

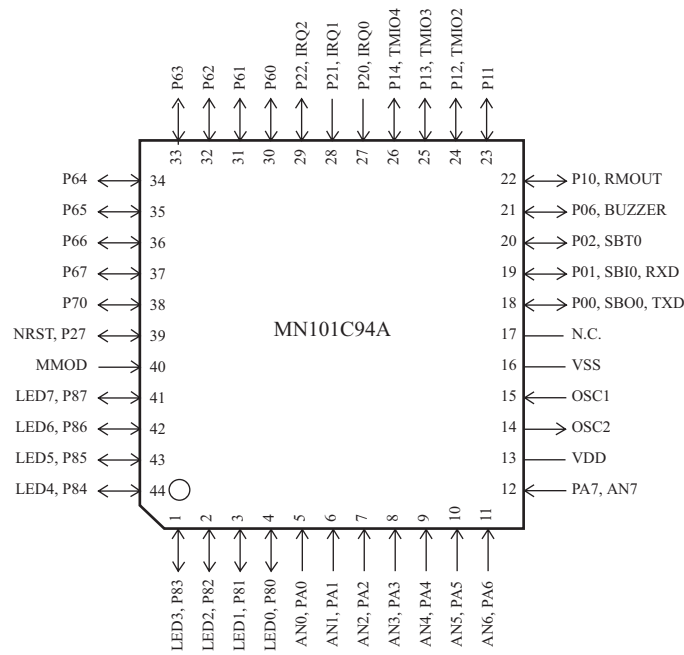
( ) : Flash memory built-in type

■ Development tools

In-circuit Emulator

PX-ICE101C/D+PX-PRB101C94-QFP044-P-1010

■ Pin Assignment



QFP044-P-1010F

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