❑ MN101CF91D

Type	MN101CF91D (under development)
ROM (×8-bit)	64K (flash memory)
RAM (×8-bit)	4K
Package	TQFP048-P-0707B *Lead-free (under development)
Minimum Instruction Execution Time	0.1 µs (at 2.7 V to 3.6 V, 10 MHz) 62.5 µs (at 2.7 V to 3.6 V, 32 kHz)
Interrupts	• RESET • Watchdog • External 0 • External 1 • External 2 • External 3 • External 4 • External 5 • External 6 (key interrupt dedicated) • Timer 0 • Timer 1 • Timer 2 • Timer 3 • Timer 4 • Timer 6 • Time base • Timer 7 (2 systems) • Timer 8 (2 systems) • Serial 0 (2 systems) • Serial 1 (2 systems) • Serial 2 (3 systems) • A/D conversion finish
Timer Counter	Timer counter 0: 8-bit × 1 (square-wave output, PWM output, event count, simple pulse width measurement) (square-wave/PWM output to large current terminal P50 (TM0OA) or P30 (TM0OB) possible) Clock source ····· 1/2, 1/4 of system clock frequency; 1/1, 1/4, 1/16, 1/32, 1/64 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source ····· coincidence with compare register 0 Timer counter 1: 8-bit × 1 (square-wave output, event count, serial transfer clock) Clock source ····· 1/2, 1/8 of system clock frequency; 1/1, 1/4, 1/16, 1/64, 1/128 of OSC oscillation clock frequency; 1/1 of XI oscillation 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 output, PWM output, event count, simple pulse width measurement) (square-wave/PWM output to large current terminal P52 (TM2OA) or P32 (TM2OB) possible) Clock source ····· 1/2, 1/4 of system clock frequency; 1/1, 1/4, 1/16, 1/32, 1/64 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source ····· coincidence with compare register 2 Timer counter 3: 8-bit × 1 (square-wave output, event count) Clock source ····· 1/2, 1/8 of system clock frequency; 1/1, 1/4, 1/16, 1/64, 1/128 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source ····· coincidence with compare register 3 Timer counter 2, 3 can be cascade-connected. Timer counter 4: 8-bit × 1 (square-wave output, PWM output, event count, simple pulse width measurement) (serial transfer clock) Clock source ····· 1/2, 1/8 of system clock frequency; 1/1, 1/4, 1/16, 1/64, 1/128 of OSC oscillation clock frequency; 1/1 of XI oscillation clock frequency; external clock input Interrupt source ····· coincidence with compare register 4

Timer Counter (Continue)

Timer counter 6: 8-bit freerun timer

Clock source ····· 1/1 of system clock frequency;
1/1, 1/128, 1/8192 of OSC oscillation clock frequency;
1/1, 1/128, 1/8192 of XI oscillation clock frequency

Interrupt source ····· coincidence with compare register 6

Timer counter 7: 16-bit × 1

(square-wave output, PWM output (cycle / duty continuous variable), event count, pulse width measurement, input capture)

(square-wave/PWM output to large current terminal P51 (TM7O) possible)

Clock source ····· 1/1, 1/2, 1/4, 1/16 of system clock frequency;
1/1, 1/2, 1/4, 1/16 of OSC oscillation clock frequency;
1/1, 1/2, 1/4, 1/16 of external clock input frequency

Interrupt source ····· coincidence with compare register 7 (2 lines), input capture register

Timer counter 8: 16 bit × 1

(square-wave output, PWM output (cycle / duty continuous variable), event count, pulse width measurement, input capture)

(square-wave/PWM output to large current terminal P53 (TM8O) possible)

Clock source ····· 1/1, 1/2, 1/4, 1/16 of system clock frequency;
1/1, 1/2, 1/4, 1/16 of OSC oscillation clock frequency;
1/1, 1/2, 1/4, 1/16 of external clock input frequency

Interrupt source ····· coincidence with compare register 8 (2 lines), input capture register

Time base timer (one-minute count setting)

Clock source ····· 1/1 of OSC oscillation clock frequency;
1/1 of XI oscillation clock frequency

Interrupt source ····· 1/128, 1/256, 1/512, 1/1024, 1/4096, 1/8192, 1/16384, 1/32768 of clock source frequency

Watchdog timer

Interrupt source ····· 1/65536, 1/262144, 1/1048576 of system clock frequency

Serial Interface

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

Clock source ····· 1/2, 1/4 of system clock frequency; pulse output of timer counter 1 or 2;
1/2, 1/4, 1/16, 1/64 of OSC oscillation clock frequency, external clock

Serial 1: synchronous type/UART (full-duplex) × 1

Clock source ····· 1/2, 1/4 of system clock frequency; pulse output of timer counter 1 or 2;
1/2, 1/4, 1/16, 1/64 of OSC oscillation clock frequency, external clock

Serial 2: synchronous type/multi-master I^2C × 1

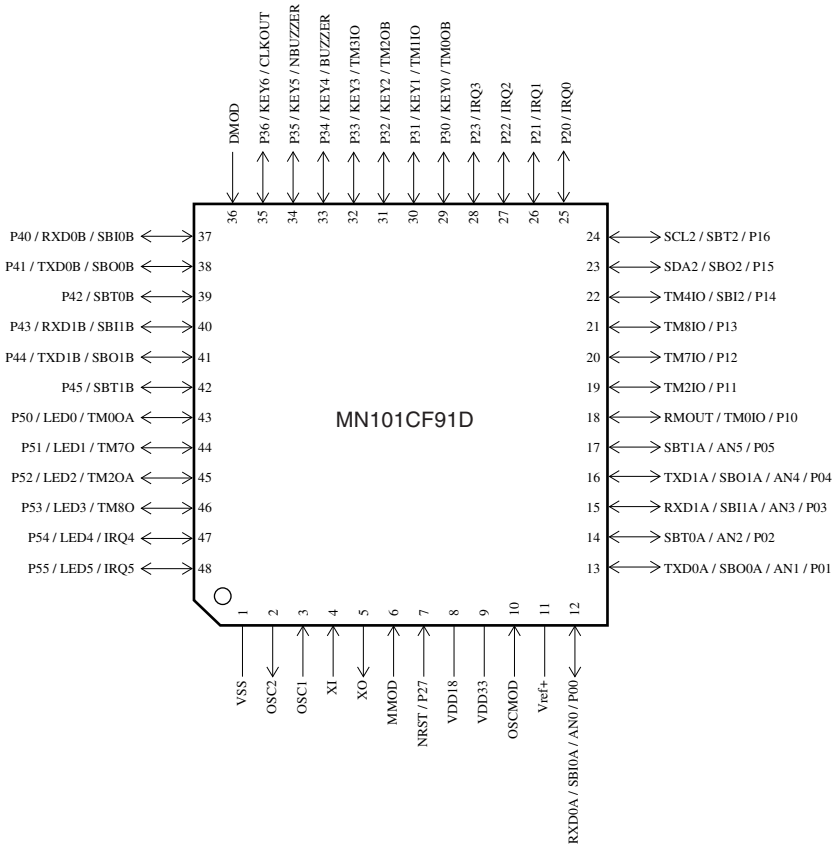
(applicable for 7-bit/10-bit address setting, general call, SMBus)

I/O Pins	**I/O**	37	• Common use • Specified pull-up resistor available • Input/output selectable (bit unit)

A/D Inputs 10-bit × 6-ch. (with S/H)

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

Pin Assignment



TQFP048-P-0707B *Lead-free (under development)

Support Tool

In-circuit Emulator PX-ICE101C / D + PX-PRB101C91-TQFP048-P-0707B-M (under development)

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