❑ MN101CF91D

Type	MN101CF91D
Internal ROM type	FLASH
ROM (byte)	64K
RAM (byte)	4K
Package (Lead-free)	TQFP048-P-0707B
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 to 5, External 6 (key interrupt dedicated), Timer 0 to 4, Timer 6, Timer 7 (2 systems), Timer 8 (2 systems), Time base, 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, serial transfer clock)
(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)

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 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 I²C × 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 converter

10-bit × 6-ch. (with S/H)

■ Special Ports

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

■ ROM Correction

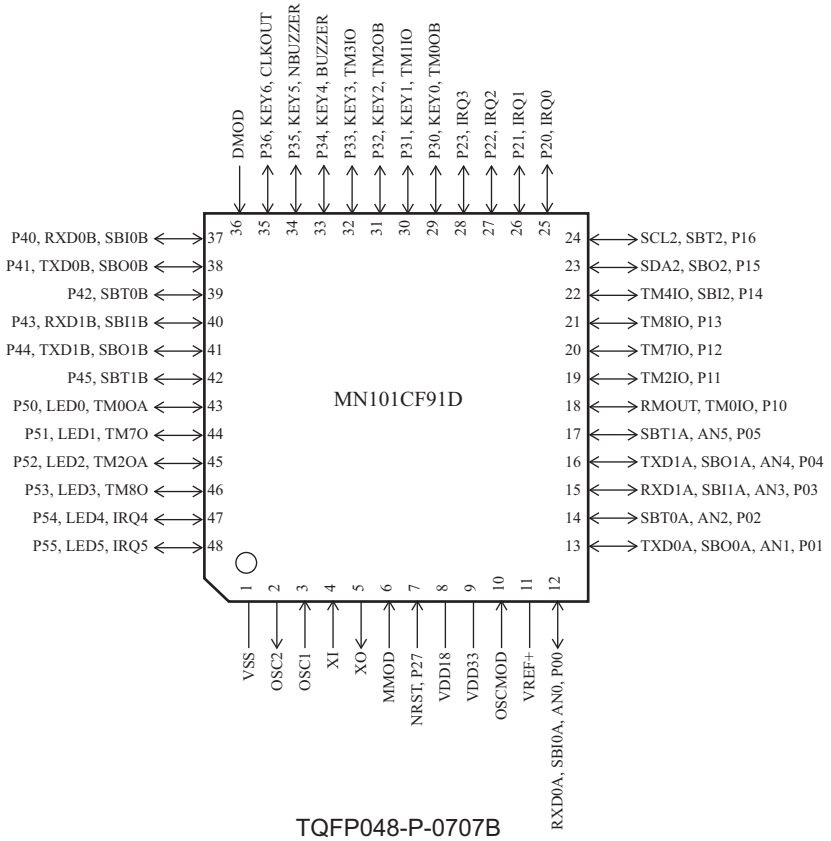
Correcting address designation : up to 3 addresses possible

■ Development tools

In-circuit Emulator

PX-ICE101C/D+PX-PRB101C91-TQFP048-P-0707B-CN-M

■ Pin Assignment



TQFP048-P-0707B

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