❑ MN101E35 Series

Type	MN101E35A	MN101E35D	MN101EF35A	MN101EF35D	MN101EF35G
Internal ROM type	Mask ROM		FLASH		
ROM (byte)	32K	68K	32K	64K+4K	128K+4K
RAM (byte)	4K				8K
Package (Lead-free)	TQFP048-P-0707B			HQFP048-P-0707B, TQFP048-P-0707B	HQFP048-P-0707B
Minimum Instruction Execution Time	0.042 µs (at 2.2 V to 3.6 V, 24 MHz, When USB unused) 0.0625 µs (at 3.0 V to 3.6 V, 16 MHz, When USB used) 62.5 µs (at 2.2 V to 3.6 V, 32 kHz)				

■ Interrupts

RESET. Watchdog. External 0 to 4. External 5 (key interrupt dedicated). External 6. Timer 0 to 4. Timer 6. Timer 7 (2 systems). Timer 8 (2 systems). Timer 9 (2 systems). Time base. Serial 1 (2 systems). Serial 2 (2 systems). Serial 4 (2 systems). A/D conversion finish. USB interrupts

■ Timer Counter

8-bit timer × 6

Timer 0 .....Square-wave output. PWM output. Event count. Simple pulse width measurement. Square-wave/PWM output to large current terminal P03 (TM0IOB) possible

Timer 1 .....Square-wave output. Event count

Timer 2 .....Square-wave output. PWM output. Event count. Simple pulse width measurement. Square-wave/PWM output to large current terminal P03 (TM2IOB) possible

Timer 3 .....Square-wave output. Event count

Timer 4 .....Square-wave output. PWM output. Event count. Simple pulse width measurement. Square-wave/PWM output to large current terminal P02 (TM4IOC) possible

Timer 6 .....8-bit freerun timer

Timer 0, 1 can be cascade-connected

Timer 2, 3 can be cascade-connected

Timer 0, 1, 2 can be cascade-connected

Timer 0, 1, 2, 3 can be cascade-connected

16-bit timer × 3

Timer 7 .....Square-wave output. PWM output (cycle/duty continuous variable). Event count. Pulse width measurement. Input capture. Square-wave/PWM output to large current terminal P00 (TM7IOB) possible

Timer 8 .....Square-wave output. PWM output (cycle/duty continuous variable). Event count. Pulse width measurement. Input capture. Square-wave/PWM output to large current terminal P01 (TM8IOB) possible

Timer 9 .....Square-wave output. PWM output (cycle/duty continuous variable). Event count. Pulse width measurement. Input capture

Time base timer: One-minute count setting

Watchdog timer × 1

■ Serial interface

Synchronous type/UART (full-duplex) × 2: Serial 1, 2

Synchronous type/Multi-master I^2C × 1: Serial 4

Serial 4.....7-bit/10-bit address setting. General call

■ USB Functions

Conforms to USB 2.0: Full-speed (12 Mbps) supported

USB transceiver built-in. 3 end points (FIFO built-in independently)

FIFO size: EP0 = 16 bytes. EP1 = 128 bytes. EP2 = 128 bytes

EP0: Control transfer. IN/OUT (two ways)

EP1 to EP2: Interrupt/Bulk/Isochronous transfer supported. Settable to IN or OUT. Double Buffering function supported

When the MAXP size is set to a half or less of the MAXFIFO size for each EP, the Double Buffering function is made valid automatically

■ I/O Pins

I/O 37 : Common use. Specified pull-up resistor available. Input/output selectable (bit unit)

■ A/D converter

10-bit × 8 channels (with S/H)

■ Extended Calculation

16-bit × 16-bit multiplication. 32-bit / 16-bit division

■ Special Ports

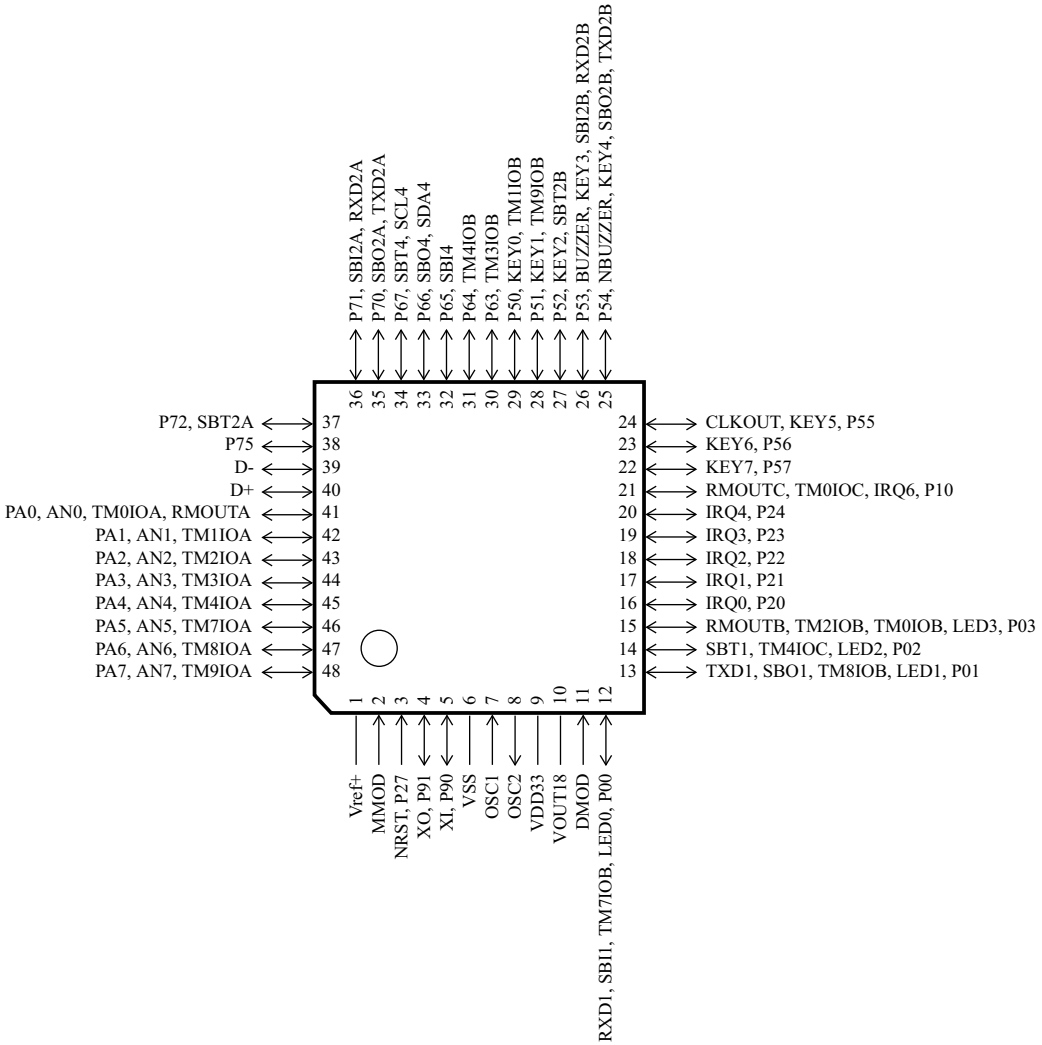
USB ports (D+, D–). Buzzer output. Remote control carrier output. High-current drive port. Clock output

■ ROM Correction

Correcting address designation: Up to 7 addresses possible

■ Pin Assignment

HQFP048-P-0707B, TQFP048-P-0707B



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