

□ MN101E01 Series

Type	MN101E01J	MN101E01K	MN101E01L	MN101E01M	MN101EF01M
Internal ROM type	Mask ROM				FLASH
ROM (byte)	192K	256K	320K	384K	
RAM (byte)	10K		14K	20K	24K
Package (Lead-free)	QFP100-P-1818B		LQFP100-P-1414, QFP100-P-1818B		
Minimum Instruction Execution Time	[Standard] 0.0625 μ s (at 3.0 V to 3.6 V, 32 MHz) 0.1 μ s (at 3.0 V to 3.6 V, 20 MHz) 62.5 μ s (at 3.0 V to 3.6 V, 32 kHz) [Double speed] 0.10 μ s (at 3.0 V to 3.6 V, 10 MHz)				[Standard] 0.0625 μ s (at 3.0 V to 3.6 V, 32 MHz) [Double speed] 0.10 μ s (at 3.0 V to 3.6 V, 10 MHz)

■ Interrupts

RESET. Watchdog. External 0 to 5. Timer 0 to 6. Timer 7 (2 systems). Time base. Serial 0 (2 systems). Serial 1 (2 systems). Serial 2. Serial 3. Serial 4 (2 systems). Automatic transfer finish. A/D conversion finish. Key interrupts (8 lines)

■ Timer Counter

8-bit timer \times 7

- Timer 0Square-wave/8-bit PWM output. Event count. Remote control carrier output. Pulse width measurement. Real time output control
- Timer 1Square-wave output. Event count. Synchronous output event
- Timer 2Square-wave/8-bit PWM output. Event count. Synchronous output event. Pulse width measurement. Real time output control. Serial baud rate timer
- Timer 3Square-wave output. Event count. Remote control carrier output. Serial baud rate timer
- Timer 4Square-wave/8-bit PWM output. Event count. Pulse width measurement. Serial baud rate timer
- Timer 5Square-wave output. Event count. Serial baud rate timer
- Timer 68-bit freerun timer
- Timer 0, 1 can be cascade-connected
- Timer 2, 3 can be cascade-connected
- Timer 4, 5 can be cascade-connected

16-bit timer \times 1

- Timer 7Square-wave/16-bit PWM output (cycle/duty continuous variable). Event count. Synchronous output event. Pulse width measurement. Input capture

Time base timer: One-minute count setting

Watchdog timer \times 1

■ Serial interface

Synchronous type/UART (full-duplex) \times 3: Serial 0, 1, 4
 Synchronous type/Single-master I²C \times 2: Serial 2, 3

■ DMA controller

Maximum transfer cycles: 255
 Starting factor: External request. Various types of interrupt. Software
 Transfer mode: 1-byte transfer. Word transfer. Burst transfer

■ I/O Pins

I/O 34 : (5 V I/F port) Common use. Specified pull-up resistor available. Input/output selectable (bit unit)
 50 : (3 V I/F port) Common use. Specified pull-up resistor available. Input/output selectable (bit unit)

■ A/D converter

10-bit \times 8 channels (with S/H)

■ D/A converter

8-bit \times 1 channels

■ Special Ports

Buzzer output. Remote control carrier output. High-current drive port

■ ROM Correction

Correcting address designation: Up to 3 addresses possible

MN101E01J, MN101E01K, MN101E01L, MN101E01M, MN101EF01M □

■ Electrical Characteristics (Supply current)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 32.0 MHz (fs = fosc/2). VDD1 = 3.3 V		11(48)	30(80)	mA
	IDD2	fosc = 20.0 MHz (fs = fosc/2). VDD1 = 3.3 V		8(43)	22(75)	mA
	IDD3	fosc = 32.768 kHz (fs = fosc/2). VDD1 = 3.3 V		30(60)	120(180)	μA
Supply current at HALT	IDD4	fx = 32.768 kHz. VDD1 = 3.3 V		12	30	μA
Supply current at STOP	IDD5	VDD1 = 3.3 V. Ta = 25 °C		0.3	3.0	μA
	IDD6	VDD1 = 3.3 V. Ta = 85 °C			80	μA

Note) (): Flash memory built-in type

■ Development tools

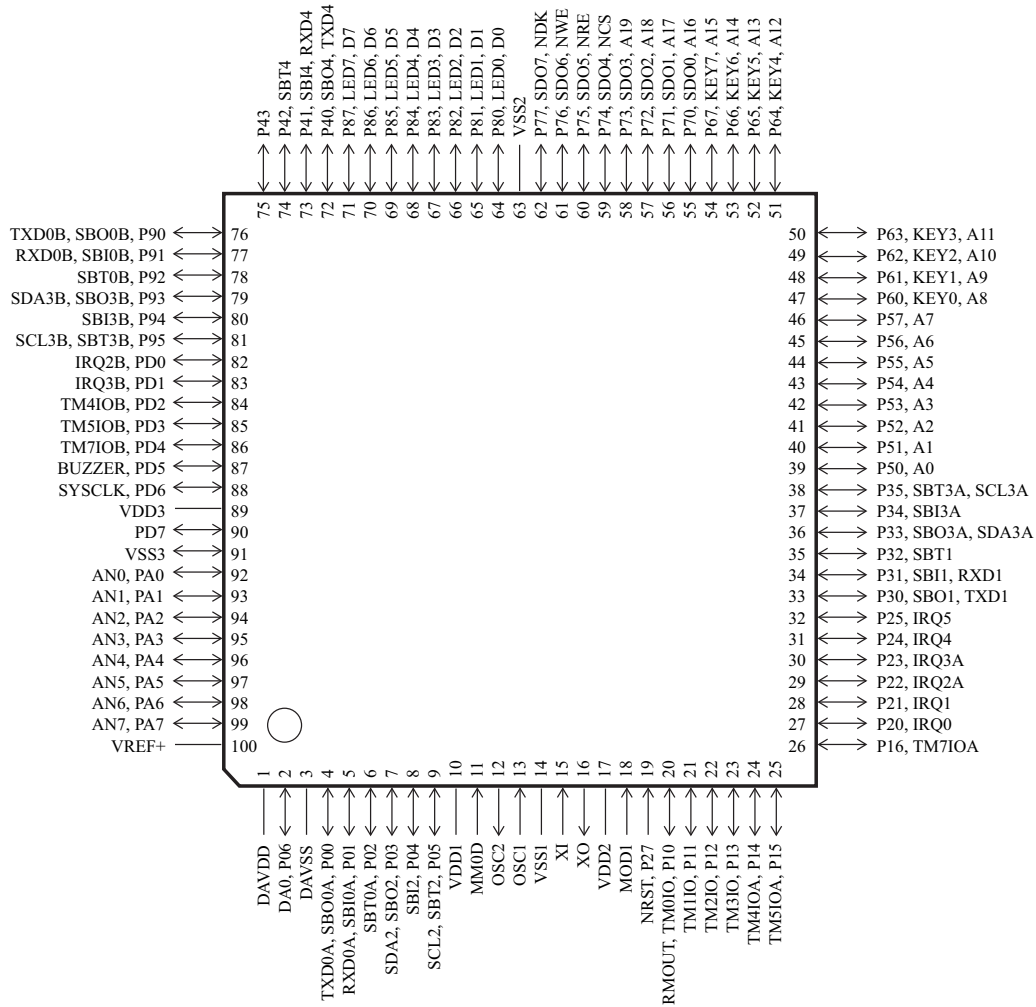
In-circuit Emulator

PX-ICE101E + PRBV101E01-QFP100-P-1818B

PX-ICE101E + PRBV101E01-LQFP100-P-1414

■ Pin Assignment

QFP100-P-1818B, LQFP100-P-1414



Note) Pin 63 to Pin 100: 5 V I/F port

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