

MN101C49 Series

Type	MN101C49G	MN101C49H	MN101C49K	MN101CF49K	MN101CP49K
Internal ROM type	Mask ROM			FLASH	EPROM
ROM (byte)	128K	160K	224K		
RAM (byte)	4K	6K	10K		
Package (Lead-free)	LQFP100-P-1414, QFP100-P-1818B				
Minimum Instruction Execution Time	[Standard]				
	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)				
	125 μs (at 2.0 V to 5.5 V, 32 kHz)*				
	[Double speed]				
	0.12 μs (at 4.5 V to 5.5 V, 8.39 MHz)				
	0.25 μs (at 3.0 V to 5.5 V, 4 MHz)				
	62.5 μs (at 2.0 V to 5.5 V, 32 kHz)*				
	*: The lower limit for operation guarantee for EPROM built-in type is 2.3 V. The lower limit for operation guarantee for flash memory built-in type is 4.5 V.				

Interrupts

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

Timer Counter

8-bit timer × 6

Timer 0Square-wave/8-bit PWM output. Event count. Remote control carrier output. Pulse width measurement

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

Timer 2Square-wave/8-bit PWM output. Event count. Synchronous output event. Pulse width measurement

Timer 3Square-wave output. Event count. Remote control carrier output

Timer 4Square-wave/8-bit PWM output. Event count. Pulse width measurement. Serial 1 baud rate timer

Timer 68-bit freerun timer

Timer 0, 1 can be cascade-connected

Timer 2, 3 can be cascade-connected

16-bit timer × 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 × 1

Serial interface

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

Synchronous type/Simple UART (half-duplex) × 1: Serial 1

Synchronous type × 1: Serial 2

Synchronous type/Single-master I²C × 1: Serial 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 73 : Common use. Specified pull-up resistor available. Input/output selectable (bit unit)
 (72) : Flash memory built-in type

Input 15 : Common use. Specified pull-up resistor available
 (14) : Flash memory built-in type

A/D converter

10-bit × 8 channels (with S/H)

D/A converter

8-bit × 4 channels

Special Ports

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

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■ ROM Correction

Correcting address designation: Up to 3 addresses possible

■ Electrical Characteristics (Supply current)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 20 MHz. VDD = 5 V		30	70	mA
	IDD2	fosc = 8.39 MHz. VDD = 5 V		15	30	mA
	IDD3	fx = 32.768 kHz. VDD = 3 V		40	120	μA
Supply current at HALT	IDD4	fx = 32 kHz. VDD = 3 V (5 V). Ta = 25 °C		5(13)	11(30)	μA
	IDD5	fx = 32.768 kHz. VDD = 3 V (5 V). Ta = 85 °C			30(90)	μA
Supply current at STOP	IDD6	VDD = 5 V. Ta = 25 °C			3	μA
	IDD7	VDD = 5 V. Ta = 85 °C			60	μA

Note) (): Flash memory built-in type

■ Development tools

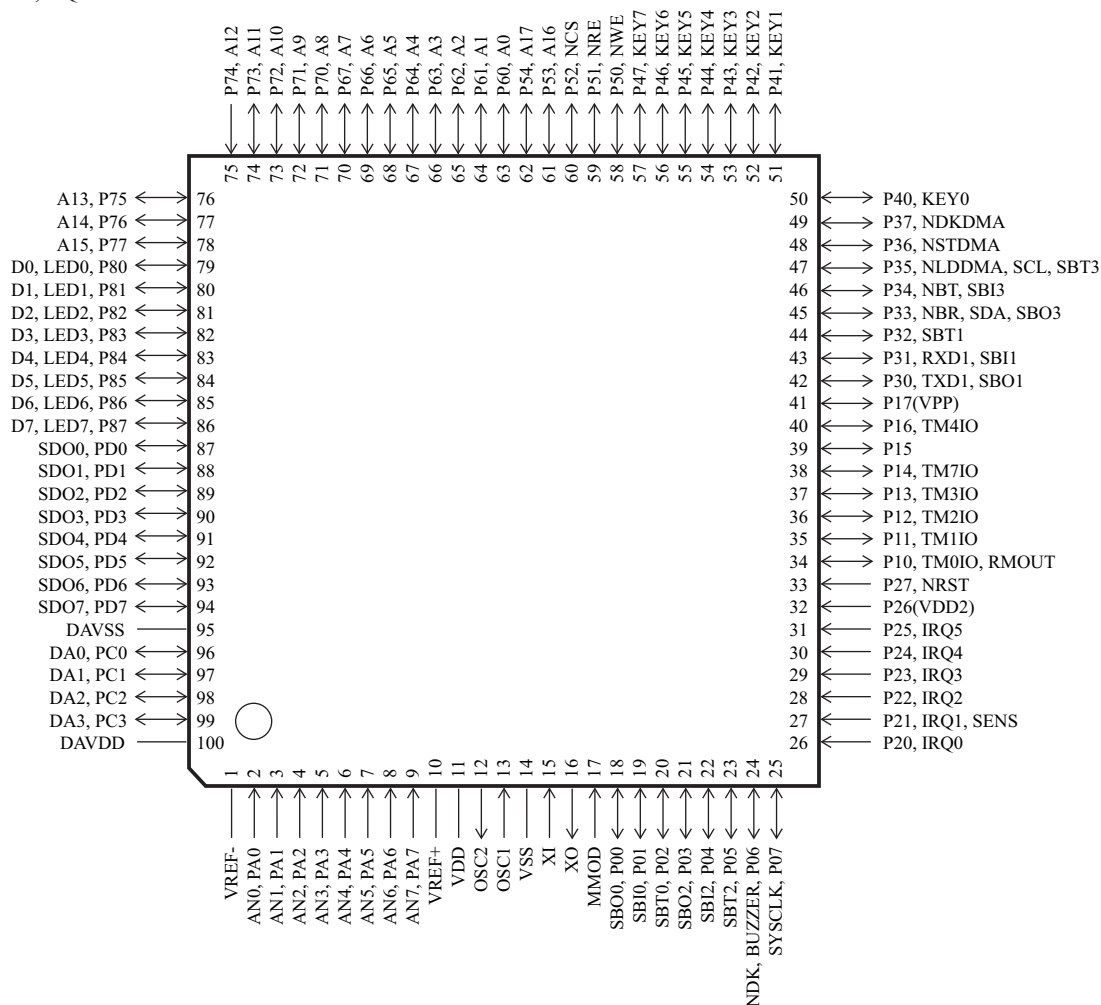
In-circuit Emulator

PX-ICE101C/D + PX-PRB101C49-QFP100-P-1818B

PX-ICE101C/D + PX-PRB101C49-LQFP100-P-1414

■ Pin Assignment

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



Note) (): Flash memory built-in type

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