

□ MN101C61 Series

Type	MN101C61D	MN101C61G	MN101CF60G	MN101CF61G
Internal ROM type	Mask ROM		FLASH	
ROM (byte)	64K		128K	
RAM (byte)	3K		12K	
Package (Lead-free)	TQFP080-P-1212D			
Minimum Instruction Execution Time	[Standard] 0.1 μs (at 2.5 V to 3.6 V, 20 MHz) 0.2 μs (at 2.1 V to 3.6 V, 10 MHz) 0.5 μs (at 1.8 V to 3.6 V, 4 MHz)* 125 μs (at 1.8 V to 3.6 V, 32 kHz)* [Double speed] 0.1 μs (at 2.5 V to 3.6 V, 10 MHz) 0.2 μs (at 2.1 V to 3.6 V, 5 MHz) 0.5 μs (at 1.8 V to 3.6 V, 2 MHz)* 62.5 μs (at 1.8 V to 3.6 V, 32 kHz)* *: The operation guarantee range for flash memory built-in type is 2.2 V to 3.0 V (MN101CF60G) or 2.7 V to 3.6 V (MN101CF61G).			

■ Interrupts

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

■ Timer Counter

8-bit timer × 7

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 5Square-wave/8-bit PWM output. Event count. Pulse width measurement. Serial 0 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) × 2: Serial 0, 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 62 : Common use. Specified pull-up resistor available. Input/output selectable (bit unit)

Input 6 : Common use. Specified pull-up resistor available

■ A/D converter

10-bit × 6 channels (with S/H)

■ Special Ports

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

■ 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 (fs = fosc/2). VDD = 3 V		5	12	mA
	IDD2	fosc = 8.39 MHz (fs = fosc/2). VDD = 3 V		2	5	mA
	IDD3	fx = 32.768 kHz (fs = fx/2). VDD = 3 V			40	μA
Supply current at HALT	IDD4	fx = 32.768 kHz. VDD = 3 V. Ta = 25 °C		4	8	μA
	IDD5	fx = 32.768 kHz. VDD = 3 V			30	μA
Supply current at STOP	IDD6	VDD = 3 V. Ta = 25 °C			2	μA
	IDD7	VDD = 3 V			20	μA

Ta = -40 °C to +85 °C. VDD = 1.8 V to 3.6 V. VSS = 0 V

Note) Ta = -20 °C to +70 °C for a flash memory built-in version.

Supply voltage range and supply current ratings are also different from the values mentioned above.

Refer to Chapter 18 "Flash EEPROM" for details.

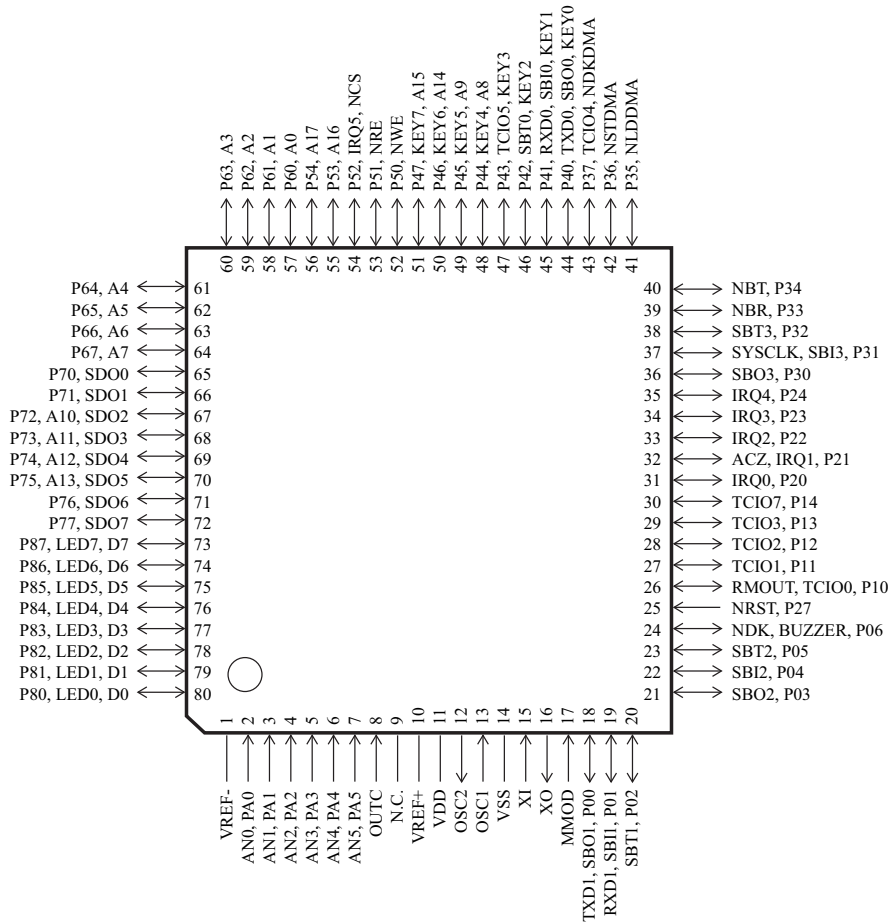
■ Development tools

In-circuit Emulator

PX-ICE101C/D + PX-PRB101C61-TQFP080-P-1212-M

■ Pin Assignment

TQFP080-P-1212D



Note) Pin 9 serves as the VPP pin in the MN101CF61G, and cannot be used as a user pin.

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