

MN101C77 Series

Type	MN101C77A	MN101C77C	MN101C77D	MN101C77F	MN101CF77G
Internal ROM type	Mask ROM				FLASH
ROM (byte)	32K	48K	64K	96K	128K
RAM (byte)	1.5K	3K	6K		
Package (Lead-free)	LQFP064-P-1414	LQFP064-P-1414, TQFP064-P-1010C	LQFP064-P-1414		LQFP064-P-1414, TQFP064-P-1010C
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)* 62.5 μs (at 1.8 V to 3.6 V, 32 kHz)* [Double speed] 0.119 μs (at 2.5 V to 3.6 V, 8.39 MHz)* * The operation guarantee range for flash memory built-in type is 2.7 V to 3.6 V.				

■ Interrupts

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

■ Timer Counter

8-bit timer $\times$ 5

Timer 0square-wave/8-bit PWM output, event count, generation of remote control carrier, pulse width measurement

Timer 1square-wave output, event count, synchronous output event

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.

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

■ Serial interface

Serial 0 : synchronous type / UART (full-duplex) $\times$ 1

Serial 1 : synchronous type / UART (full-duplex) $\times$ 1

Serial 3 : synchronous type/single-master I²C $\times$ 1

Serial 4 : I²C slave $\times$ 1 (Applicable for I²C high-speed transfer mode, 7 bit/10bit address setting, general call)

■ DMA controller

Max. 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 53 : Common use , Specified pull-up resistor available, Input/output selectable (bit unit)

■ A/D converter

10-bit $\times$ 7-ch. (with S/H)

■ D/A converter

8-bit $\times$ 2-ch. (Serves as AD pin, as well)

■ Special Ports

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

■ ROM Correction

Correcting address designation : up to 3 addresses possible

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■ Electrical Characteristics (Supply current)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 20 MHz , VDD = 3.3 V, (fs = fosc/2)		6	12	mA
	IDD2	fosc = 8.39 MHz , VDD = 3.3 V, (fs = fosc/2)		3	6	mA
	IDD3	fx = 32.768 kHz , VDD = 3.3 V, (fs = fx/2)			40	μA
Supply current at HALT	IDD4	fx = 32.768 kHz , VDD = 3.3 V, Ta = 25°C		5	10	μA
	IDD5	fx = 32.768 kHz , VDD = 3.3 V			40	μA
Supply current at STOP	IDD6	VDD = 3.3 V, Ta = 25°C			2	μA
	IDD7	VDD = 3.3 V, Ta = 85°C			30	μA

(Ta = -40°C to +85°C , VDD = 1.8 V to 3.6 V , VSS = 0 V)

■ Development tools

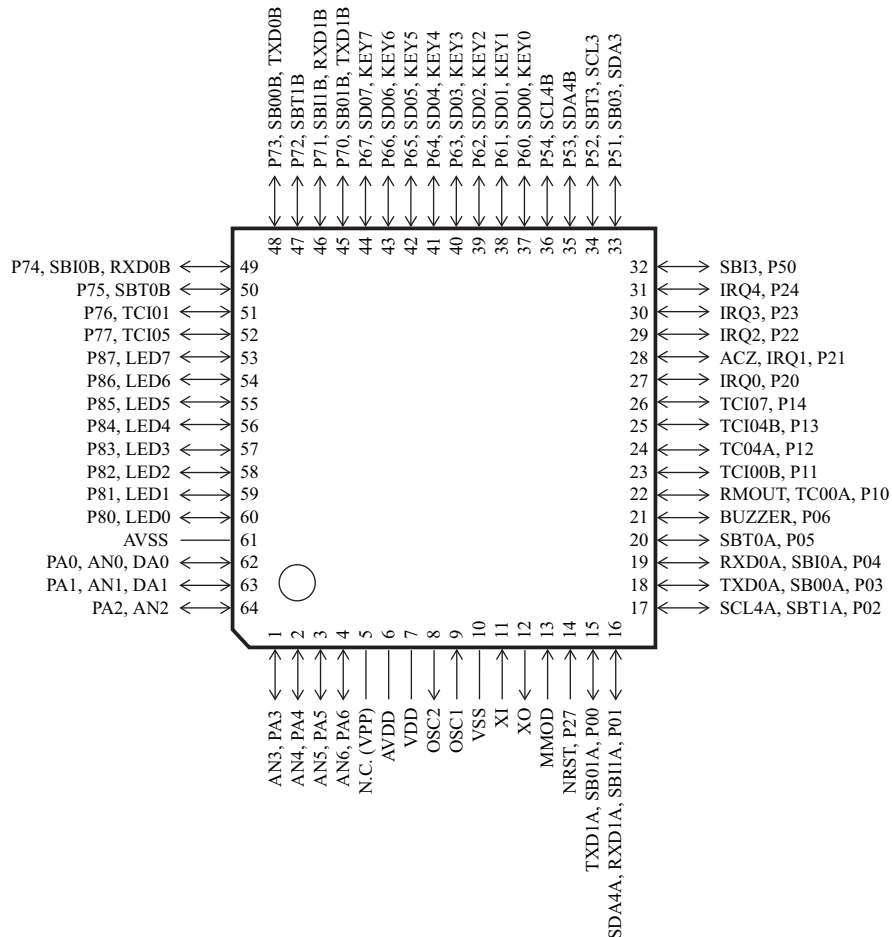
In-circuit Emulator

PX-ICE101C/D + PX-PRB101C77-TQFP064-P-1010C

PX-ICE101C/D + PX-PRB101C77-LQFP064-P-1414

■ Pin Assignment

LQFP064-P-1414, TQFP064-P-1010C [MN101C77C]



Note) N.C. serves as the VPP pin in the MN101CF77G, and cannot be used as a user pin.

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