

MN102L59 Series

Type	MN102L59D	MN102LF59D
Internal ROM type	Mask ROM	FLASH
ROM (byte)	64K	
RAM (byte)	2K	
Package (Lead-free)	LQFP064-P-1414	
Minimum Instruction Execution Time	[With main clock operated] 100 ns (at 4.5 V to 5.5 V, 5 MHz externally, multiplied by 4 internally)	

■ Interrupts

RESET, Watchdog, Timer counter 0 to 11, External 0 to 5, Serial ch.0 transfer finish, Serial ch.1 transfer finish, /NMI pin, A/D conversion finish

■ Timer Counter

8-bit timer × 9

Timer 0timer output, event count

Timer 1timer output, event count, A/D conversion start up

Timer 2timer output, event count

Timer 3interval timer, UART baud rate generator

Timer 4, 5interval timer

Timer 8, 9timer output, event count, simple PWM output

Timer 10timer output, simple inverter control [simple 6-phase PWM output]

[Connectable] timer counter 0, 1, 2 timer counter 0, 4, 5

16-bit timer × 3

Timer 6, 7timer output, event count

Timer 1116-bit updown counter : highly functional inverter control [simple 6-phase PWM output], A/D conversion start

■ Serial interface

Serial 0, 1 : 1 to 8-bit × 1 (common use with half-duplex UART, transfer direction of MSB/LSB selectable)

Half-duplex UART × 2 (common use with serial 0, 1)

■ I/O Pins

I/O 52 : Common use : 52 (by bit)

■ A/D converter

10-bit × 12-ch. (with S/H) : 4 channels for common use

■ PWM

16-bit × 2-ch. (common use with timer counter 6,7)

simple 6-phase PWM output 8-bit × 1-ch.(common use with timer counter 10)

6-phase PWM output 16-bit × 1ch. (timer counter 11)

■ Notes

6-phase PWM output support

■ Electrical Characteristics (Supply current)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDDopr	VI = VDD or VSS, output open f = 5 MHz, VDD = 5.0 V			75	mA
Supply current at STOP	IDDS	Pin with pull-up resistor is open all other input pins and Hi-Z state input/output pins are simultaneously applied VDD or VSS level			50	μA
Supply current at HALT	IDDH	f = 5 MHz, VDD = 5.0 V, output open			30	mA

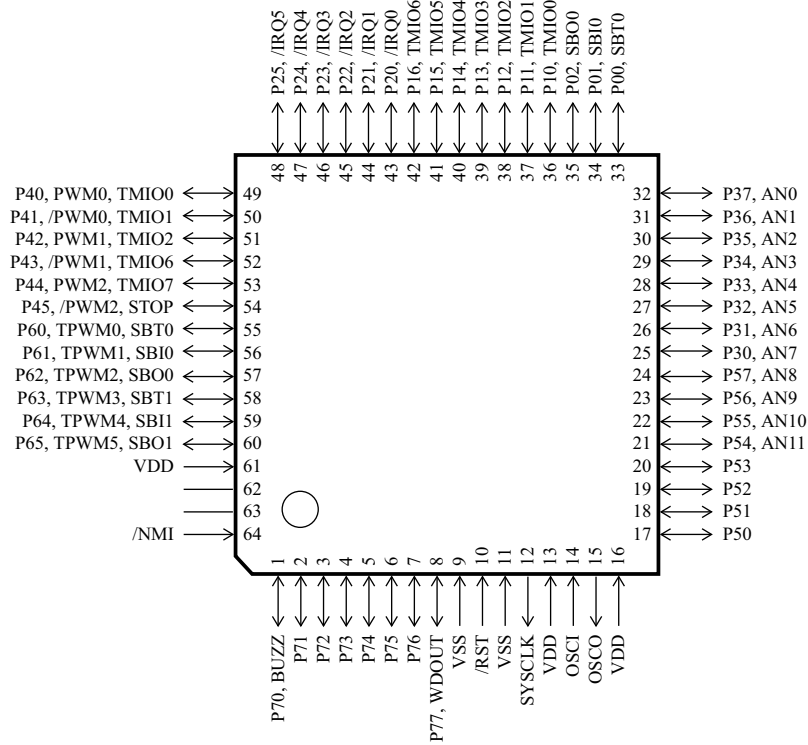
(Ta = -20°C to +85°C, VDD = 5.0V, VSS = 0V)

■ Development tools

In-circuit Emulator

PX-ICE102L00 + PX-PRB102L59-LQFP064-P-1414

■ Pin Assignment
LQFP064-P-1414



Note) The MN102LF59D is manufactured and sold under license agreement with BULL CP8 Inc.
Note that MN102LF59D cannot be used as the IC card.