

□ MN102H46 Series

Type	MN102H460B
Internal ROM type	External
ROM (byte)	—
RAM (byte)	4K
Package (Lead-free)	LQFP128-P-1818C, TQFP128-P-1414B
Minimum Instruction Execution Time	[With main clock operated] 50 ns (at 3.0 V to 3.6 V, 40 MHz) 100 ns (at 2.0 V to 3.6 V, 20 MHz)

■ Interrupts

/RST pin, Watchdog, /NMI pin, Timer counter 4 to 15, Timer counter 16, Timer counter 17, Timer counter 21, Timer counter 16 to 20 compare capture A, Timer counter 16 to 20 compare capture B, Timer counter 21 capture A, Timer counter 21 capture B, Timer counter 21 capture D, Timer counter 21 compare E, Timer counter 21 compare F, ATC ch.0 to ch.3 transfer finish, External 0 to 7, Serial ch.0 to ch.3 transmission, Serial ch.0 to ch.3 reception, /KI pin (OR), A/D conversion finish

■ Timer Counter

8-bit timer × 16

- Timer 0, 1prescalers
- Timer 2, 3UART baud rate generator
- Timer 4timer output, A/D conversion start up
- Timer 5, 9UART baud rate generator
- Timer 6 to 8timer output
- Timer 10 to 15timer output
- [Connectable] timer counter 0 to 3, 4 to 7, 8 to 11, 12 to 15

16-bit timer × 5

- Timer 16 to 20timer output, event count, input capture, output compare, PWM output, 2-phase encoder input

24-bit timer × 1

- Timer 21servo control

■ Serial interface

Serial 0, 1 : 8-bit × 1 (transfer direction of MSB / LSB selectable, transmission / reception of 7, 8-bit length)

Serial 2, 3 : 8-bit × 1 (transfer direction of MSB / LSB selectable, transmission / reception of 7, 8-bit length)

UART × 4 (common use with serial 0 to 3)

PC × 2 (common use with serial 1, 3; single master)

■ I/O Pins

I/O 55 : Common use : 55 (use of full address, address data separate 16-bit mode)
 Common use : 72 (use of address 16-bit, address data multiplex 16-bit mode)

Input 8 : Common use : 8

■ A/D converter

10-bit × 12-ch. (maximum input is 16) (with S/H)

■ PWM

16-bit × 5-ch. (timer counter 16 to 20)

■ ICR

16-bit × 5-ch., 24-bit × 1-ch. (timer counter 16 to 21)

■ OCR

16-bit × 5-ch., 24-bit × 1-ch. (timer counter 16 to 21)

■ Notes

Address / data multiplex bus interface, address / data separate bus interface,
8-bit / 16-bit bus width selectable

■ Electrical Characteristics (Supply current)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDDopr	VI = VDD or VSS, output open f = 40 MHz, VDD = 3.3 V			50	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 = 40 MHz, VDD = 3.3 V, output open			25	mA

(Ta = -20°C to +70°C, VDD = AVDD = 3.3 V, VSS = AVSS = 0 V)

■ Development tools

In-circuit Emulator

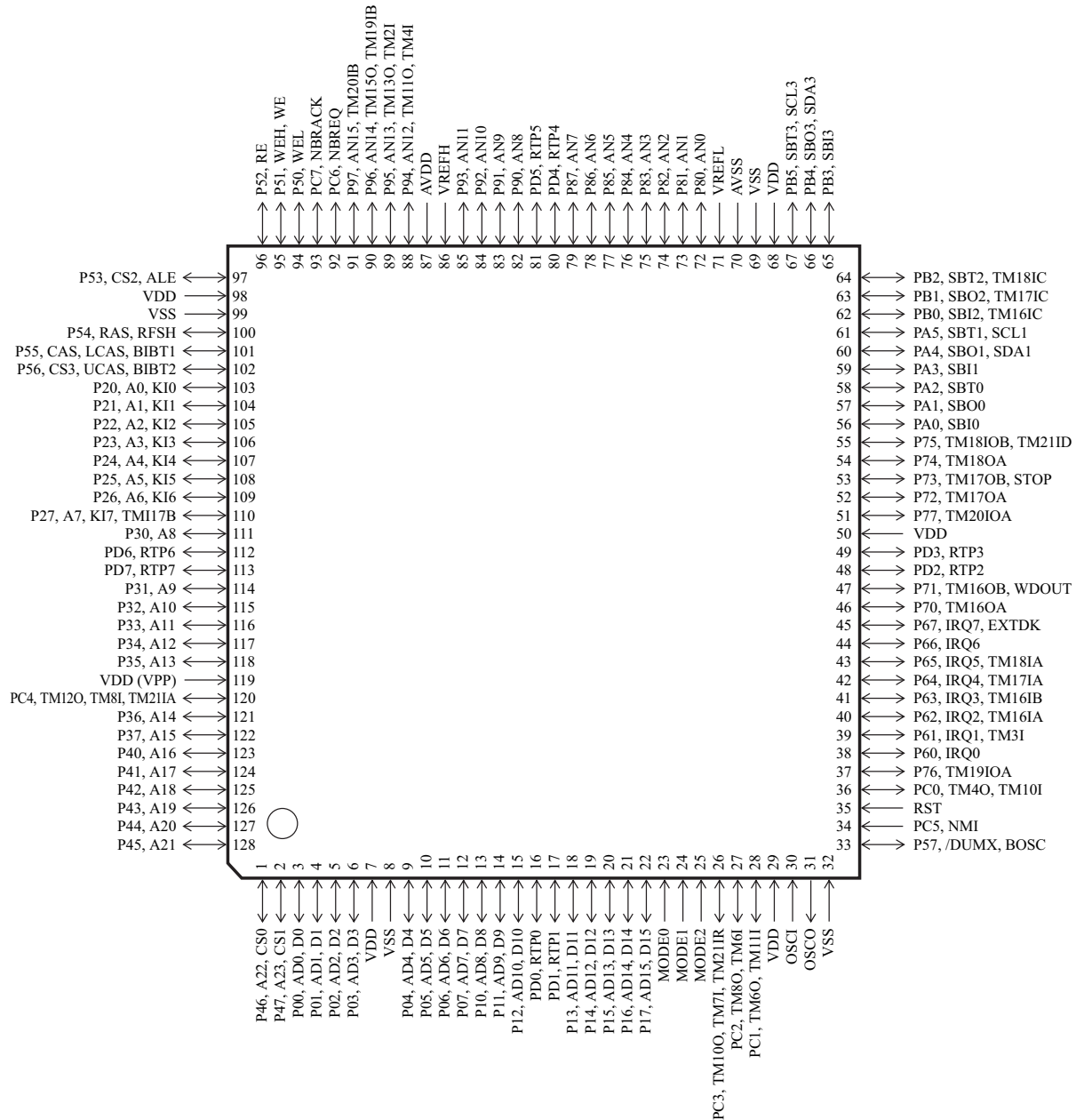
PX-ICE102H46-LQFP128-P-1818C

PX-ICE102H46-TQFP128-P-1414B

Minimum instruction execution time 57.1 ns (at 30 MHz)

■ Pin Assignment

LQFP128-P-1818C, TQFP128-P-1414B



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