

MN103S927, MN103S92A

Type	MN103S927	MN103S92A	MN103SF92G
Internal ROM type	Mask ROM		FLASH
ROM (byte)	16K	32K	128K
RAM (byte)	2K		4K
Package (Lead-free)	LQFP064-P-1414 (Under development)		LQFP064-P-1414A
Minimum Instruction Execution Time	25 ns (at 3.0 V to 3.6 V, 10 MHz) * at internal 4 times oscillation used		25 ns (at 3.0 V to 3.6 V, 10 MHz)

■ Interrupts

8 external interrupts

18 internal interrupts : watch dog timer, timer, serial I/F, PWM, A/D, system error

■ Timer Counter

8-bit timer × 4

Timer 0 to 3 Interval timer, Event counter, Cascading connectable

16-bit timer × 2

Timer 8 Interval timer, Event counter, PWM output (6 pins simultaneous output are available), Double buffer

Timer 11 Interval timer, Double buffer, Start synchronized with 3-phase PWM are available

Watch dog timer

■ Serial interface

UART (full duplex) / synchronous interfaces selective × 1

Serial 2 1-bit to 8-bit transmission (synchronous), 2 and 3 channel type selectable (synchronous)

■ Expanded Calculation Functions

Multiply-and-accumulate; Multiply saturation

■ I/O Pins

I/O	41	Exclusive × 11, common use × 30
Input	8	Common use × 8

■ A/D converter

10-bit × 3 unit, 2 inputs × 1, 6 inputs × 1

Simultaneous conversion of 2 series are available, With S/H,

Conversion start synchronized with 3-phase PWM or timer 11 are available

■ Motor Control PWM

16-bit 3-phase PWM × 1

Minimum resolution : 50 ns

Triangular waveform or jigsaw waveform dead time setup,

Double buffer, Output polar switching is available, PWM output pin protect function

■ Electrical Characteristics (A/D converter characteristics)

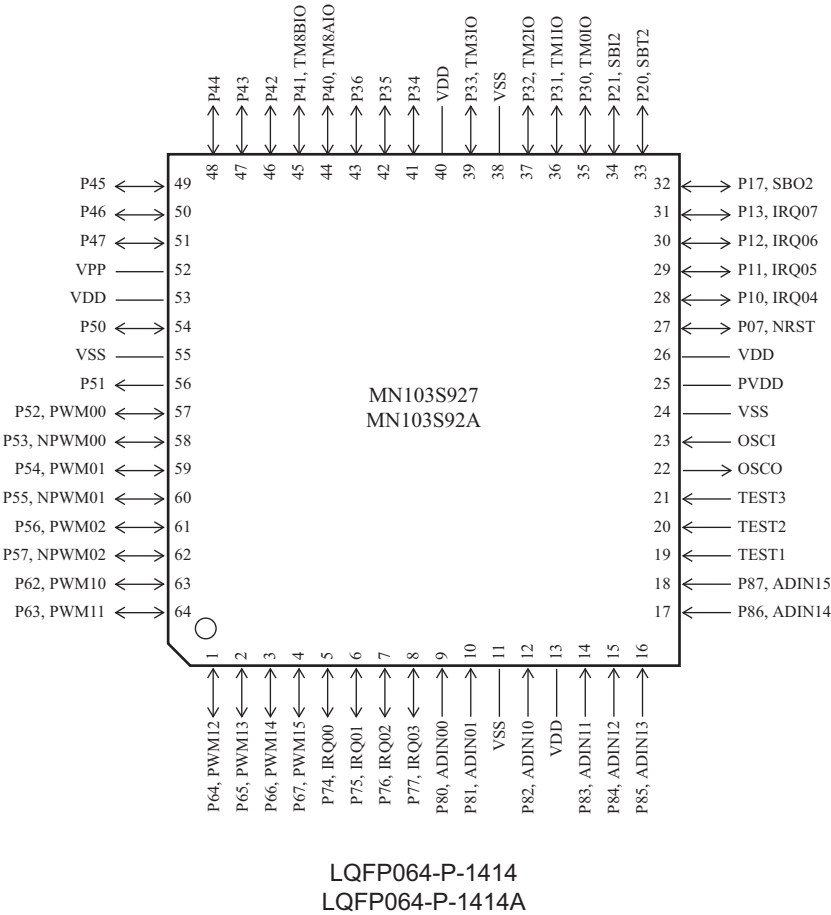
Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Non-linear error		10-bit			±3	LSB
A/D conversion time	tAD		1.5			μs
Analog input voltage	VIA		VSS		VDD	V

(Ta = 25°C, VDD = 3.0 V, VSS = 0 V)

■ Development tools
In-circuit Emulator
PX-ICE-103S92

On-board Development Tools
PX-ODB103-DO

■ Pin Assignment



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