

□ MN103S927, MN103S92A

Type	MN103S927		MN103S92A (under development)
Internal ROM	16K-byte		32 K-byte
Internal RAM	2K-byte		
Package	LQFP064-P-1414 <small>*Lead-free</small>		
Minimum Instruction Execution Time	25 ns (at 3.0 V to 3.6 V, 10 MHz) *at internal 4 times oscillation used)		
Interrupts	<ul style="list-style-type: none"> 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)		
I/O Pins	I/O	41	Exclusive × 11, selective × 30
	Input	8	Selective × 8
A/D Inputs	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		

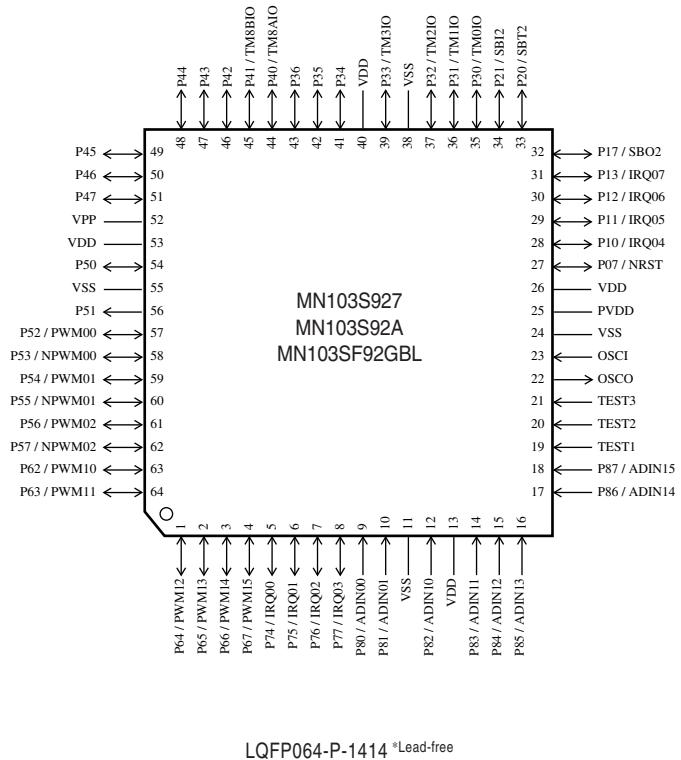
■ Electrical Characteristics

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)

■ Pin Assignment



Support Tool

In-circuit Emulator	PX-ICE-103S92	
On board Debugger	PX-ODB103-DO	
Flash Memory Built-in Type	Type ROM RAM Minimum instruction execution time Package	MN103SF92G 128K-byte 4K-byte 25 ns (at 3.0 V to 3.6 V, 10 MHz) LQFP064-P-1414A *Lead-free

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