

# □ MN103SA7D, MN103SA7G

Type	MN103SA7D	MN103SA7G	MN103SFA7K
Internal ROM type	Mask ROM		FLASH
ROM (byte)	64K	128K	256K
RAM (byte)	4K		8K
Package (Lead-free)	LQFP080-P-1414A	LQFP080-P-1414A (Under development)	LQFP080-P-1414A
Minimum Instruction Execution Time	16.7 ns (at 4.5 V to 5.5 V) * at internal 4 times oscillation used		16.7 ns (at 4.5 V to 5.5 V)

## ■ Interrupts

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

## ■ Timer Counter

8-bit timer × 12  
Interval timer, Event counter, Cascading connectable  
16-bit timer × 6  
Interval timer, Event counter, PWM output, Double buffer  
Watch dog timer

## ■ Serial interface

UART (full duplex) / synchronous interfaces selective × 3

## ■ I/O Pins

I/O	61	Common use × 61
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## ■ A/D converter

10-bit × 3 unit, 16 inputs  
Minimum conversion time 1.0 μs

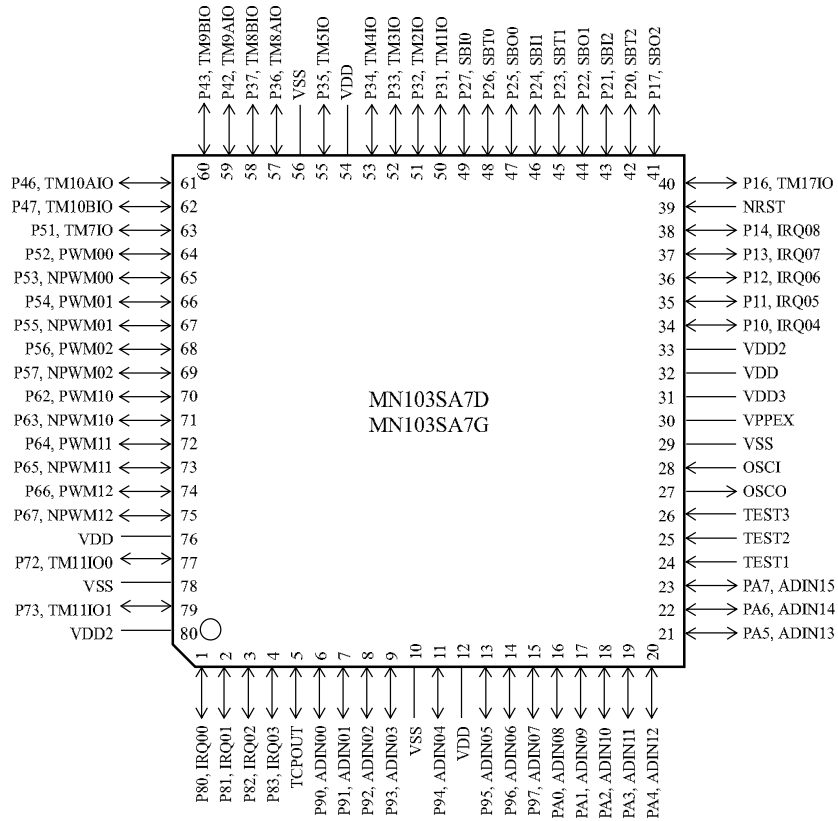
## ■ PWM

3-phase PWM outputs × 2  
16-bit counter, triangular wave, saw-tooth wave, dead time setup, double buffer

## ■ Development tools

In-circuit Emulator  
PX-ICE-103SA7

■ Pin Assignment



LQFP080-P-1414A