

MN103SA2 Series

Type	MN103SFA2R
Internal ROM type	FLASH
ROM (byte)	1024K
RAM (byte)	64K
Package (Lead-free)	LQFP100-P-1414 (Under development)
Minimum Instruction Execution Time	16.7 ns (at 2.7 V to 3.6 V, 60 MHz)

■ Interrupts

RESET, IRQ × 8, NMI, Timer × 32, I²C × 3, SIF × 16, DMA × 12, WDT, A/D, Time base timer × 2, System error, Key input, Remote control × 4, CAN × 2

■ Timer Counter

8-bit timer A × 10

Reload-down count. Cascade connection possible (usable as a 16-bit to 32-bit timer)

8-bit timer B × 3

Interval timer. Event count. Square-wave output. Simple pulse width measurement. PWM output

16-bit timer × 6

Up-down count. Input capture. PWM output. Compare/capture register 2 channels

Time base timer × 1

Watchdog timer × 2

■ Serial interface

UART/Synchronous/Multi-master I²C interface selective × 3

UART/Synchronous interface selective × 5

■ Remote Control Interface

Remote control reception: Correspondence with AEHA (Association for Electric Home Appliances) format. Queued reception by low speed clock

■ CAN controller

Number of channels: 2 channels

CAN Protocol Specification Version: CAN2.0B

Transmission speed: Max. 1 Mbps

Data length code: 0 to 8 bytes

Message frame types: Standard and extended frame format supported

Standard (SFF) ID: 11-bit. Extended (EFF) ID: 29-bit

Buffer size (each channel): 32 (transmission/reception)

■ DMA controller

Number of channels: 4 channels

Unit of transfer: 8/16/32 bits

Maximum transfer cycles: 65535

Starting factor: External interrupt. Timer. Serial transmission/reception. A/D conversion finish. I²C transmission/reception. Software.

Remote control data reception. CAN

Transfer method: 2-bus cycle transfer

Addressing modes: Fixed. Increment. Decrement

Transfer mode: Word transfer. Burst transfer. Intermittent transfer

■ I/O Pins

I/O 22 : Common use

 59 : Common use

Input 1 : Common use

■ A/D converter

10-bit × 8 channels

■ ROM Correction

8 channels

■ Electrical Characteristics (A/D converter characteristics)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Resolution					10	Bits
Non-linear error		VDD5 = VREFH = 5.5 V. VDD33 = 3.3 V. VSS = 0 V			±4	LSB
Differential non-linearity error					±4	LSB

■ Development tools

In-circuit Emulator

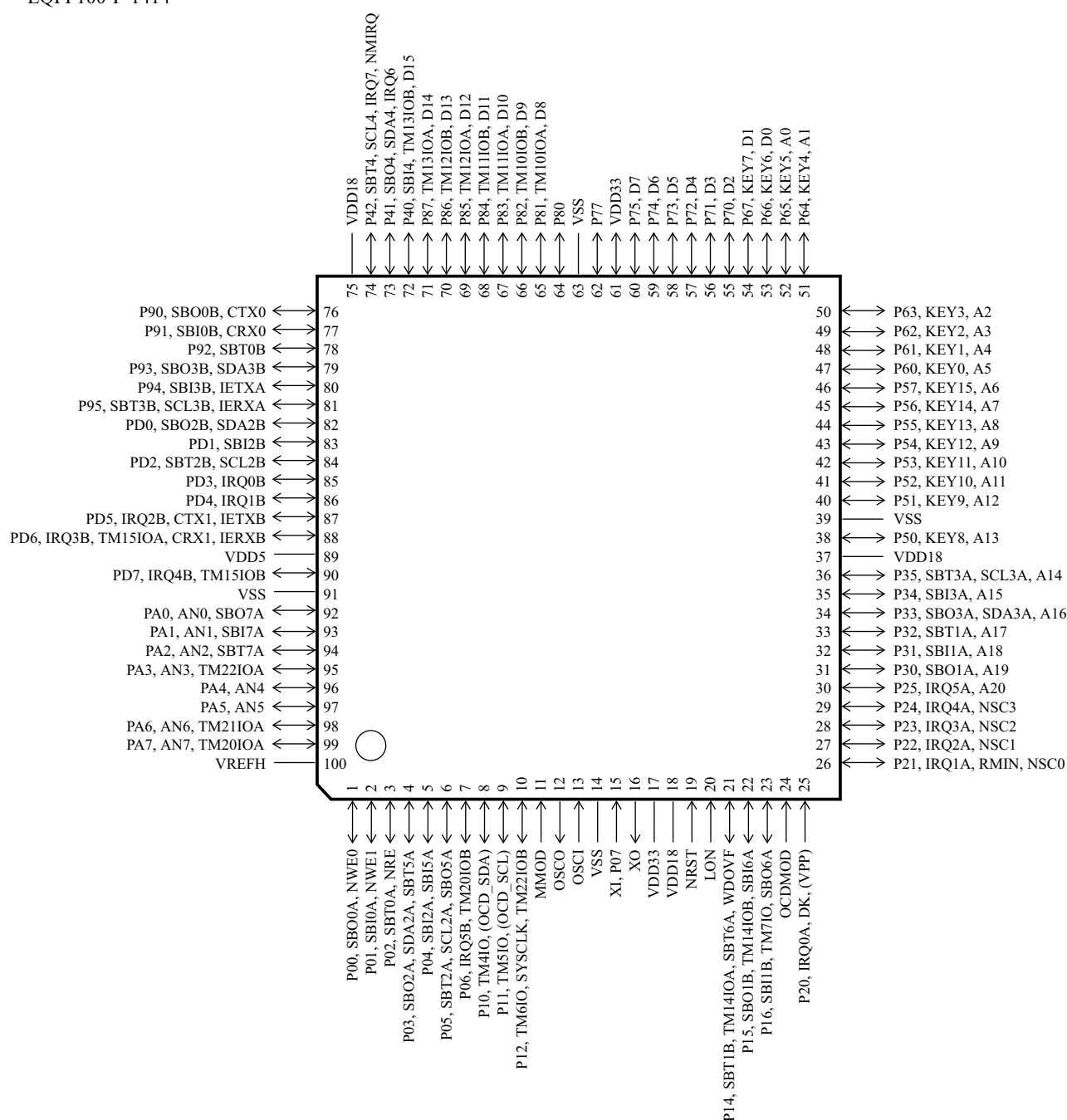
PX-ICE-103SA2

On-board Development Tools

PX-ODB103S-D0

■ Pin Assignment

LQFP100-P-1414



Note) VDD5 = VDD33 to 5.5 V. VDD33 = 2.7 V to 3.6 V

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