❑ MN103SG5 Series

Type	MN103SFG5K
Internal ROM type	FLASH
ROM (byte)	256K
RAM (byte)	12K
Package (Lead-free)	LQFP128-P-1818C
Minimum Instruction Execution Time	16.7 ns (4.5 V to 5.5 V)

■ Interrupts

16 external interrupts
65 internal interrupts: Watchdog timer. Timer. Serial I/F. PWM. A/D conversion finish. System error

■ Timer Counter

8-bit timer × 16
Timer 0 to 15 .....Interval timer. Event count. Cascading connectable
16-bit timer × 8
Timer 17, 19, 24 ....Interval timer. Event count. PWM output. Double buffer
Timer 18, 23 .....Interval timer. Event count. PWM output (6 pins simultaneous output are available). Double buffer
Timer 20 to 22 .....Interval timer. Event count. PWM output. Double buffer. Start synchronized with 3-phase PWM are available

■ Serial interface

Multi-master I^2C/Synchronous interface selective × 1
Serial 0.....1-bit to 8-bit transmission (synchronous). 2 and 3 channel type selectable (synchronous)
UART (full duplex) /Synchronous interfaces selective × 3
Serial 1.....1-bit to 8-bit transmission (synchronous). 2 and 3 channel type selectable (synchronous)
Serial 2, 3.....7-bit, 8-bit transmission

■ I/O Pins

I/O 112 : Common use × 110

■ A/D converter

10-bit × 3 unit. 28 channels
Minimum conversion time: 1.0 µs
Simultaneous conversion of 3 series are available
Conversion start synchronized with 3-phase PWM or timer 20, 21, 22 are available

■ Motor Control PWM

16-bit 3-phase PWM × 3
Triangular waveform or jigsaw waveform. Dead time setup. Double buffer. Output polar switching is available. PWM output pin protect function

■ Arithmetic unit for inverter system

This series implement the instructions as follows.
High-speed multiplication. High-speed division. Square-root. Absolute value. Trigonometric functions. 2/3 transform. 3/2 transform. Low-pass filter. PI control

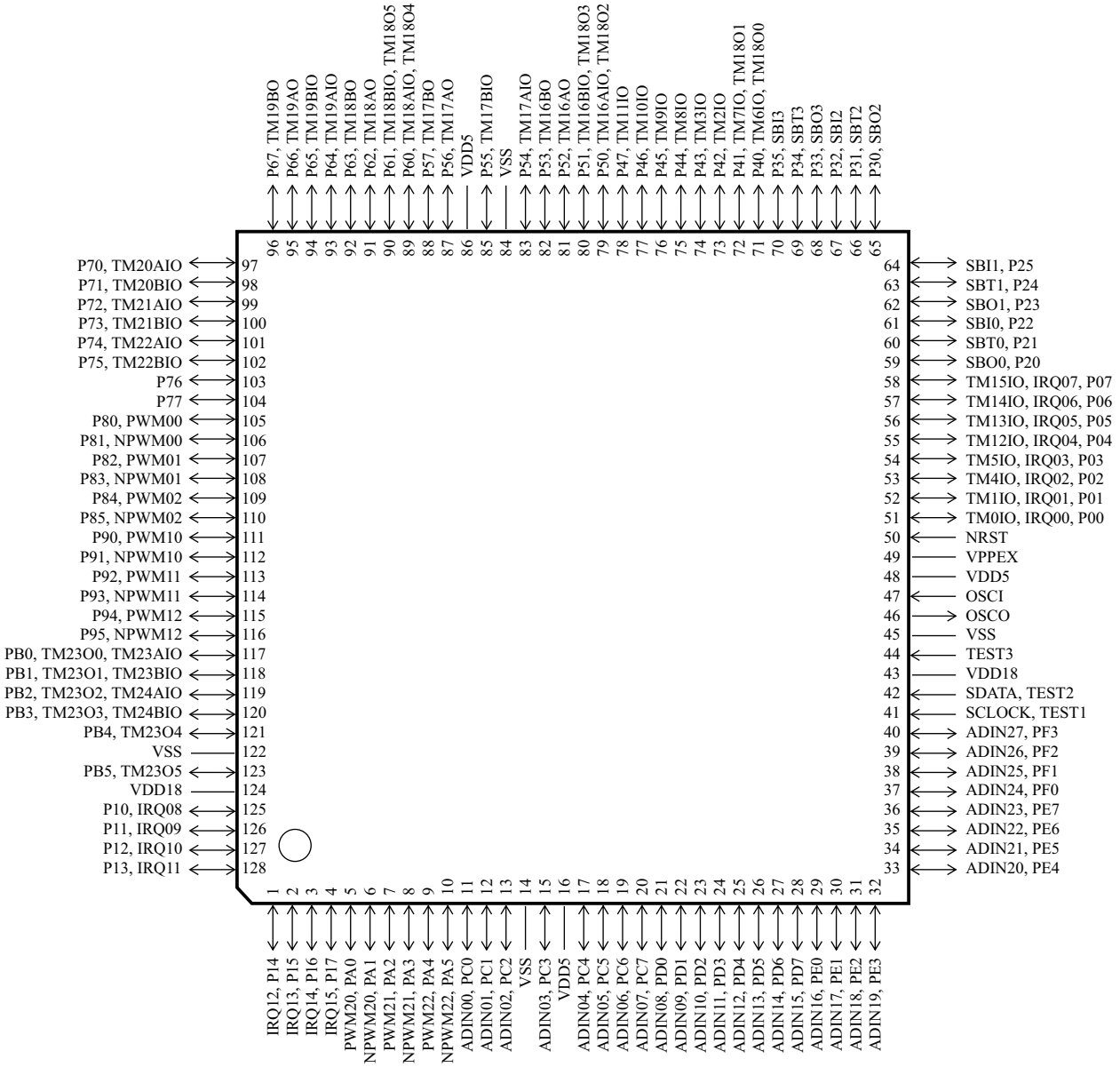
■ Electrical Charactreistics (A/D converter characteristics)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Non-linear error		10-bit			±3	LSB
A/D conversion time	TAD		1.0			µs
Analog input voltage	VIA		VSS		VDD	V

Ta = 25 °C. VDD = 5.0 V. VSS = 0 V

■ Pin Assignment

LQFP128-P-1818C



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