

# □ MN101C74 Series

Type	MN101C74F	MN101C74G	MN101CF74G
Internal ROM type	Mask ROM		FLASH
ROM (byte)	96K	128K	
RAM (byte)	6K		
Package (Lead-free)	LQFP100-P-1414, MLGA100-L-1010, QFP100-P-1818B		
Minimum Instruction Execution Time	0.1 $\mu$ s (at 3.0 V to 3.6 V, 10 MHz) 0.235 $\mu$ s (at 1.8 V to 3.6 V, 4.25 MHz)* 62.5 $\mu$ s (at 1.8 V to 3.6 V, 32 kHz)* *: The lower limit for operation guarantee for flash memory built-in type is 2.2 V.		

## ■ Interrupts

RESET. Watchdog. External 0 to 5. External 6 (key interrupt dedicated). Timer 0 to 3. Timer 6. Timer 7 (2 systems). Timer 8 (2 systems). Time base. Serial 0 (2 systems). Serial 1 (2 systems). Serial 3. Serial 4. A/D conversion finish. Automatic transfer finish

## ■ Timer Counter

8-bit timer  $\times$  5

Timer 0 .....Square-wave/8-bit PWM output. Event count. Remote control carrier output. Simple pulse width measurement. Added pulse (2-bit) type PWM output. Square-wave/PWM output to large current terminal PC3 possible

Timer 1 .....Square-wave output. Event count. Synchronous output event

Timer 2 .....Square-wave output. Added pulse (2-bit) type PWM output. PWM output. Serial transfer clock output. Event count. Synchronous output event. Simple pulse width measurement. Square-wave/PWM output to large current terminal PC5 possible

Timer 3 .....Square-wave output. Event count. Serial transfer clock output

Timer 6 .....8-bit freerun timer

Timer 0, 1 can be cascade-connected

Timer 2, 3 can be cascade-connected

16-bit timer  $\times$  2

Timer 7 .....Square-wave output. 16-bit PWM output (cycle/duty continuous variable). Event count. Synchronous output event. Pulse width measurement. Input capture. Real time output control. High performance IGBT output. Square-wave/PWM output to large current terminal PC4 possible

Timer 8 .....Square-wave/16-bit PWM output (duty continuous variable). Event count. Pulse width measurement. Input capture. Square-wave/PWM output to large current terminal PC6 possible

Timer 7, 8 can be cascade-connected: Square-wave output, PWM is possible as a 32-bit timer

Time base timer: One-minute count setting

Watchdog timer  $\times$  1

## ■ Serial interface

Synchronous type/UART (full-duplex)  $\times$  2: Serial 0, 1

Synchronous type/Single-master I<sup>2</sup>C  $\times$  1: Serial 3

I<sup>2</sup>C slave  $\times$  1: Serial 4

Serial 4.....I<sup>2</sup>C high-speed transfer mode. 7-bit/10-bit address setting. General call

## ■ DMA controller

Maximum transfer cycles: 255

Starting factor: External request. Various types of interrupt. Software

Transfer mode: 1-byte transfer. Word transfer. Burst transfer

## ■ I/O Pins

I/O 87 : Common use. Specified pull-up resistor available. Input/output selectable (bit unit)

## ■ A/D converter

10-bit  $\times$  16 channels (with S/H)

## ■ Display control function

LCD: 47 segments  $\times$  4 commons (Static, 1/2, 1/3, or 1/4 duty)

LCD power supply separated from VDD (usable if  $V_{DD} \leq V_{LCD} \leq 3.6$  V)

LCD power step-up circuit contained (3/2 times, 2 times and 3 times)

LCD power shunt resistance contained

## ■ Special Ports

Buzzer output. Inverted buzzer output. Remote control carrier output. High-current drive port

■ ROM Correction

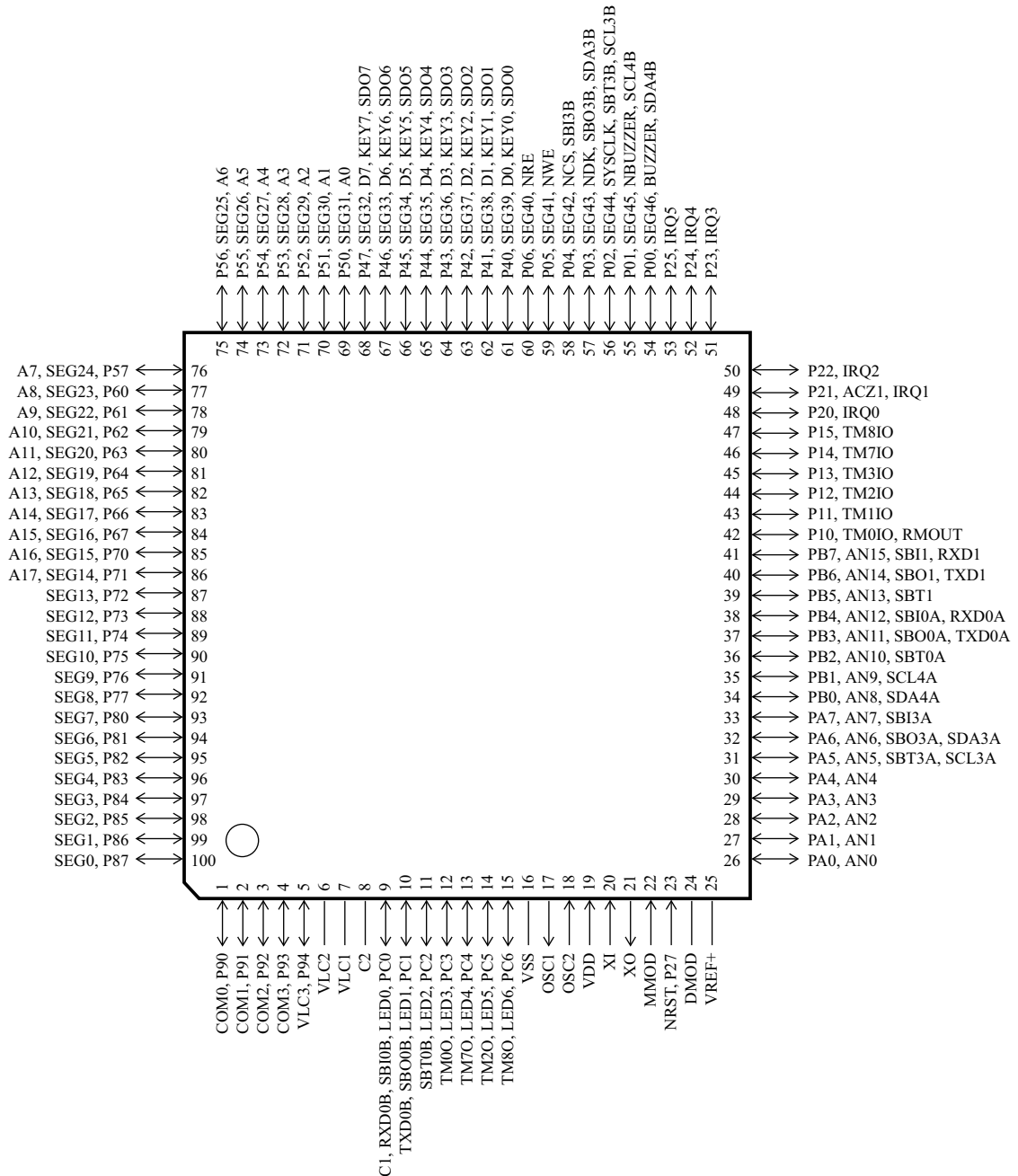
Correcting address designation: Up to 7 addresses possible

■ Electrical Characteristics (Supply current)

Parameter	Symbol	Condition	Limit			Unit
			min	typ	max	
Operating supply current	IDD1	fosc = 4 MHz. VDD = 3 V		1.1	1.9	mA
	IDD2	fx = 32 kHz. VDD = 3 V		6	20	μA
Supply current at HALT	IDD3	fx = 32 kHz. VDD = 3 V. Ta = 25 °C		3	6	μA
	IDD4	fx = 32 kHz. VDD = 3 V. Ta = -40 °C to +85 °C			13	μA
Supply current at STOP	IDD5	VDD = 3 V. Ta = 25 °C			2	μA
	IDD6	VDD = 3 V. Ta = -40 °C to +85 °C			10	μA

■ Pin Assignment

QFP100-P-1818B, LQFP100-P-1414, MLGA100-L-1010



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