

MN101E46 Series

Type	MN101E46G	MN101E46N	MN101E46R	MN101EF46R
Internal ROM type	Mask ROM			FLASH
ROM (byte)	128K	508K	928K	
RAM (byte)	4K		6K	8K
Package (Lead-free)	TQFP128-P-1414C			TQFP128-P-1414A
Minimum Instruction Execution Time	0.1 μ s (at 2.2 V to 3.6 V, 10 MHz) 0.125 μ s (at 1.8 V to 3.6 V, 8 MHz) 61 μ s (at 1.8 V to 3.6 V, 32.768 kHz)			

■ Interrupts

RESET. Watchdog. External 0 to 3. Timer 0 to 3. Timer 6. Timer 7 (2 systems). Timer 8 (2 systems). Time base. Serial 0. Serial 1 (2 systems). A/D conversion finish. Automatic transfer finish. LCD frame finish

■ Timer Counter

8-bit timer $\times$ 5

Timer 0Square-wave/8-bit PWM output. Event count. Remote control carrier output. Simple pulse width measurement

Timer 1Square-wave output. Event count. Serial transfer clock output

Timer 2Square-wave/8-bit PWM output. Serial transfer clock output. Event count. Simple pulse width measurement

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

Timer 68-bit freerun timer

Timer 0, 1 can be cascade-connected

Timer 2, 3 can be cascade-connected

16-bit timer $\times$ 2

Timer 7, 8Square-wave output. 16-bit PWM output (cycle/duty continuous variable). Event count. Pulse width measurement.

Input capture

Time base timer: One-minute count setting

Watchdog timer $\times$ 1

■ Serial interface

Synchronous type/Single-master I²C $\times$ 1: Serial 0

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

■ 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 67 : Common use

Output 40 : LCD drive output exclusive use

■ A/D converter

10-bit $\times$ 3 channels (External input 2 channels, Internal 1.8 V input 1 channel)

■ Display control function

Dot Matrix type LCD control function

Display size up to 2048 pixels (32 COM $\times$ 64 SEG)

LCD drivers: COM output maximum 32 pins / SEG output maximum 67 pins (3 pins has dual function for COM/SEG)

1/8, 1/16, 1/24, 1/32 duty

1/5, 1/6 bias

LCD panel drive voltage maximum 5.5 V

Built-in LCD voltage booster and LCD voltage dividing resistor

16-level contrast control

Bright and dark 2-step level display function

Monochrome inversion function

■ Special Ports

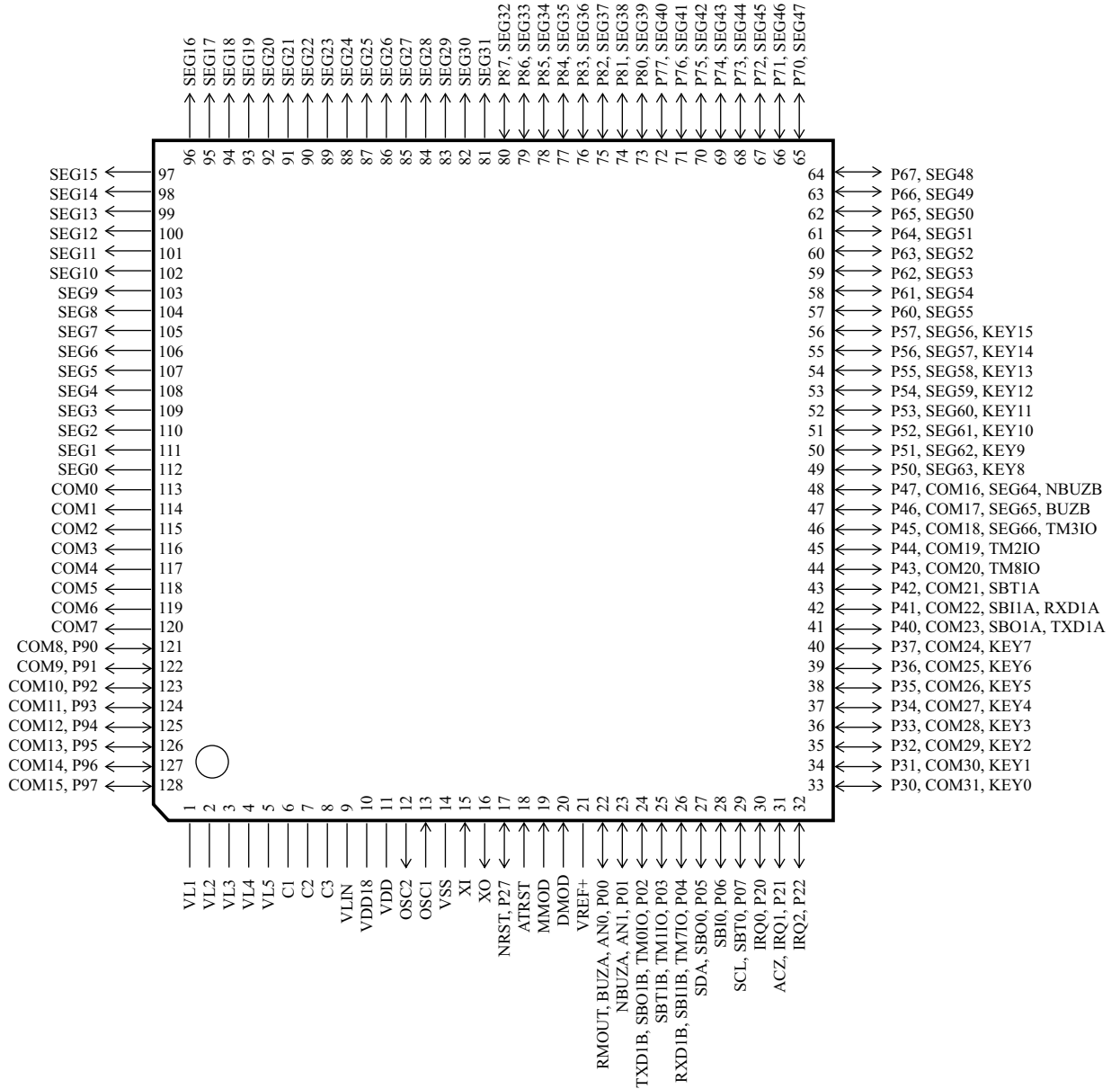
Buzzer output. Remote control carrier output

■ ROM Correction

Correcting address designation: Up to 7 addresses possible

■ Pin Assignment

TQFP128-P-1414A, TQFP128-P-1414C



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