## Notification about the transfer of the semiconductor business

The semiconductor business of Panasonic Corporation was transferred on September 1, 2020 to Nuvoton Technology Corporation (hereinafter referred to as "Nuvoton"). Accordingly, Panasonic Semiconductor Solutions Co., Ltd. became under the umbrella of the Nuvoton Group, with the new name of Nuvoton Technology Corporation Japan (hereinafter referred to as "NTCJ").

In accordance with this transfer, semiconductor products will be handled as NTCJ-made products after September 1, 2020. However, such products will be continuously sold through Panasonic Corporation.

Publisher of this Document is NTCJ.
If you would find description “Panasonic” or “Panasonic semiconductor solutions”, please replace it with NTCJ.

※ Except below description page
“Request for your special attention and precautions in using the technical information and semiconductors described in this book”

Nuvoton Technology Corporation Japan

# ❑ MN101C73 Series

| Type | MN101C73A | MN101CF73A |
|---|---|---|
| Internal ROM type | Mask ROM | FLASH |
| ROM (byte) | 32K | |
| RAM (byte) | 1.5K | 2K |
| Package (Lead-free) | LQFP064-P-1414, TQFP064-P-1010C | |
| Minimum Instruction Execution Time | 0.1 µs (at 3.0 V to 3.6 V, 10 MHz)<br>0.235 µs (at 1.8 V to 3.6 V, 4.25 MHz)*<br>62.5 µs (at 1.8 V to 3.6 V, 32 kHz)*<br>*: 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. A/D conversion finish

## ■ Timer Counter

8-bit timer × 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 P50 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 P51 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 × 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 P52 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 P53 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 × 1

## ■ Serial interface

Synchronous type/UART (full-duplex) × 2: Serial 0, 1

Synchronous type/Single-master $I^2C$ × 1: Serial 3

## ■ I/O Pins

I/O 55 : Common use. Specified pull-up resistor available. Input/output selectable (bit unit)

## ■ A/D converter

10-bit × 12 channels (with S/H)

## ■ Display control function

LCD: 32 segments × 4 commons (Static, 1/2, 1/3, or 1/4 duty)

Usable if VLCD ≤ VDD

LCD power shunt resistance contained

## ■ Special Ports

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

## ■ ROM Correction

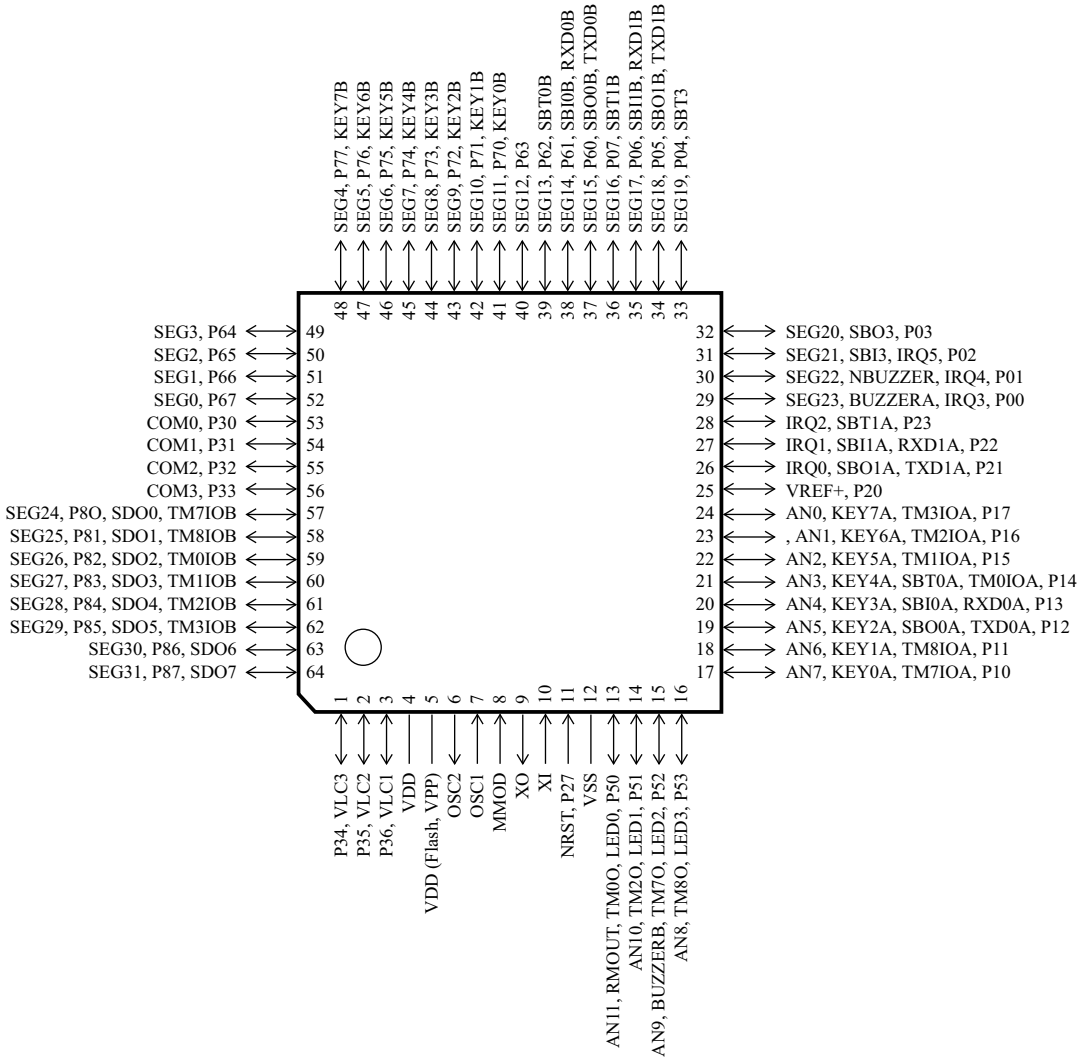
Correcting address designation: Up to 3 addresses possible

■ Electrical Charactreistics (Supply current)

| Parameter | Symbol | Condition | Limit | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Operating supply current | IDD1 | fosc = 4 MHz. VDD = 3 V | | 1 | 1.8 | mA |
| | IDD2 | fx = 32 kHz. VDD = 3 V | | 4 | 15 | µA |
| Supply current at HALT | IDD3 | fx = 32 kHz. VDD = 3 V. Ta = 25 °C | | 2 | 5 | µA |
| | IDD4 | fx = 32 kHz. VDD = 3 V. Ta = -40 °C to +85 °C | | | 10 | µA |
| Supply current at STOP | IDD5 | VDD = 3 V. Ta = 25 °C | | | 2 | µA |
| | IDD6 | VDD = 3 V. Ta = -40 °C to +85 °C | | | 8 | µA |

■ Pin Assignment

TQFP064-P-1010C, LQFP064-P-1414



# Request for your special attention and precautions in using the technical information and semiconductors described in this book

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(3) The products described in this book are intended to be used for general applications (such as office equipment, communications equipment, measuring instruments and household appliances), or for specific applications as expressly stated in this book.
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Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.

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