# ❑ MN101E02H

| Type | MN101E02H | MN101EF02K |
|---|---|---|
| Internal ROM type | Mask ROM | FLASH |
| ROM (byte) | 160K | |
| RAM (byte) | 16K | |
| Package (Lead-free) | QFP084-P-1818E | QFP084-P-1818E (ES (Engineering Sample) available) |
| Minimum Instruction Execution Time | 100 ns (at 3.135 V to 3.465 V, normal-mode) | 100 ns |

## ■ Interrupts

External (5 lines)

Internal (15 lines) : Timer × 4, A/D × 1, RESET × 1, OSD × 1, Serial × 2, Teletext decoder × 2, I²C × 1, Caption × 1, Remote control × 1, HSYNC× 1, VSYNC× 1

## ■ Timer Counter

8-bit timer × 4

Watchdog timer : Time-out period is selectable.

## ■ Serial interface

I²C × 1 : for multimaster mode, bus line (output) has 2 systems

Sync serial / UART × 1

## ■ Caption / Teletext Decoder

・Built-in sync separator × 1

## ■ I/O Pins

| | | |
|---|---|---|
| I/O | 35 | Common use |

## ■ A/D converter

10-bit × 8-ch. (with S/H)

## ■ PWM

8-bit × 4-ch. , 14-bit × 1-ch.

## ■ Special Ports

Remote control reception

## ■ CRTC

1-layer display (graphics, characters, splits)

## ■ Notes

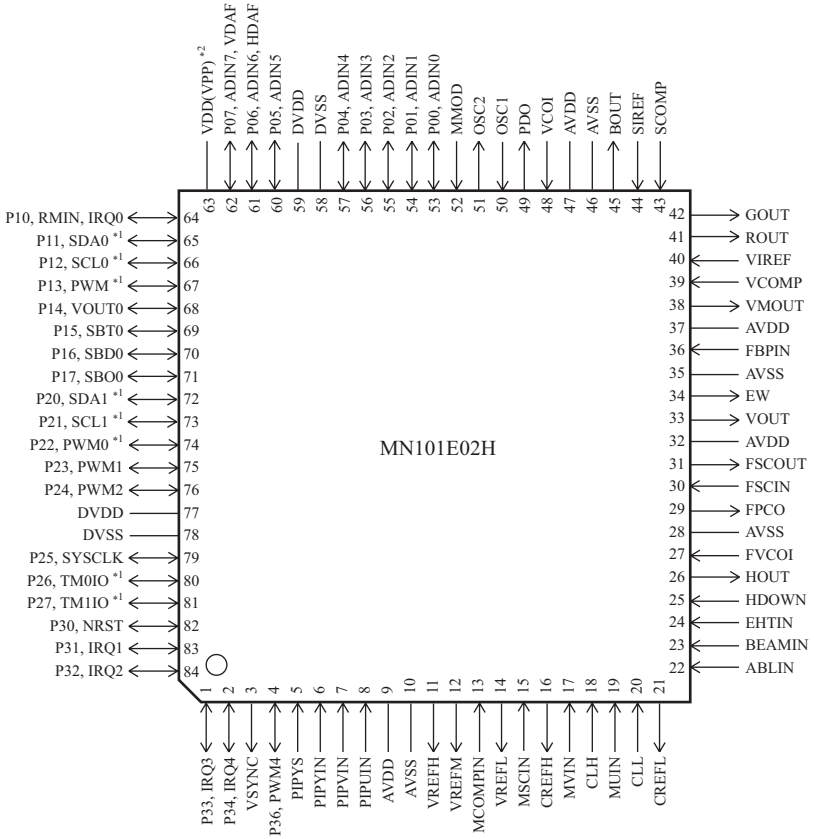
Remote control input discriminant circuit built-in, build-in NTSC/PAL (BGHIDK, M, N)/SECAM/NTSC443 video signal processing circuit, built-in 3-line comb filter (NTSC), built-in adaptive 2-line comb filter (PAL), built-in teletext decoder

## ■ Development tools

In-circuit Emulator

PX-PAC101E02-4W9J

## ■ Pin Assignment




QFP084-P-1818E

Note) *1: 5 V dielectric N-ch. open drain output pin
*2: Mask ROM = VDD, Flash memory built-in type = VPP

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(6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.