## ☐ MN101E13G

Туре	MN101E13G	MN101EF13G
Internal ROM type	Mask ROM	FLASH
ROM (byte)	12	28K
RAM (byte)	4K	
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 (7 lines)

 $\begin{aligned} \text{Internal (13 lines)}: & \text{Timer} \times 4, \text{A/D} \times 1, \text{RESET} \times 1, \text{OSD} \times 1, \text{Serial} \times 2, \text{I}^2\text{C} \times 1, \text{Caption} \times 1, \text{Remote control} \times 1, \text{HSYNC} \times 1, \\ & & \text{VSYNC} \times 1 \end{aligned}$ 

## ■ Timer Counter

8-bit timer  $\times$  4

Watchdog timer: Time-out period is selectable.

#### ■ Serial interface

 $I^2C \times 1$ : for multimaster mode, bus line (output) has 2 systems

Sync serial / UART × 1

## ■ Caption / Teletext Decoder

• Built-in sync separator × 1

#### ■ I/O Pins

	1	
I/O	35	Common use

#### ■ A/D converter

10-bit  $\times$  8-ch. (with S/H)

#### ■ PWM

8-bit  $\times$  6-ch., 14-bit  $\times$  1-ch.

## ■ Special Ports

Remote control reception

#### ■ CDTC

1-layer display (graphics, characters, splits)

#### ■ Notes

Remote control input discriminant circuit built-in, build-in NTSC video signal processing circuit, built-in 3-line comb filter

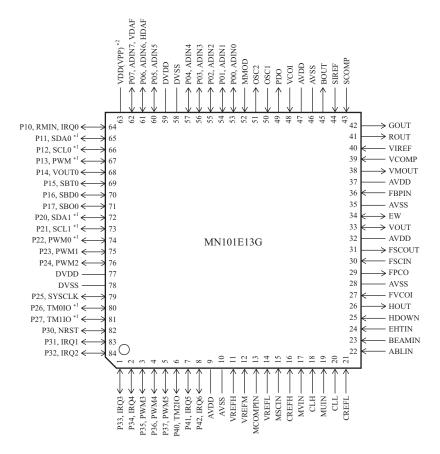
## Development tools

In-circuit Emulator

PX-PAC101E02-4W9J

Panasonic MAD00045DEM

## ■ 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

MAD00045DEM Panasonic

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