

# □ MN102H90M

Type	MN102H90M
Internal ROM type	Mask ROM
ROM (byte)	384K
RAM (byte)	20K
Package (Lead-free)	QFP160-P-2828F
Minimum Instruction Execution Time	83 ns (at 3.0 V to 3.6 V, 12 MHz)

## ■ Interrupts

External (6 lines)

Internal (35 lines) : Timer × 10, A/D × 1, OSD × 3, Serial × 6, I<sup>2</sup>C × 3, Caption × 4, Remote control × 1, Address coincidence × 4, RTC × 3

## ■ Timer Counter

8-bit timer × 10

Watchdog timer : 16-bit × 1

## ■ Serial interface

I<sup>2</sup>C × 3 : for multimaster mode, bus line (output) has 4 systems

Sync serial / I<sup>2</sup>C (master) / UART × 3

## ■ Caption / Teletext Decoder

Built-in sync separator × 2

## ■ I/O Pins

I/O	111	Common use
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## ■ A/D converter

8-bit × 12-ch. (with S/H)

## ■ D/A converter

8-bit × 4-ch. (general use or analog R, G, B, α output)

## ■ PWM

8-bit × 4-ch.

## ■ Special Ports

Remote control reception, digital OSD output

## ■ CRTIC

3-layer display (graphics, characters, sprites)

## ■ Notes

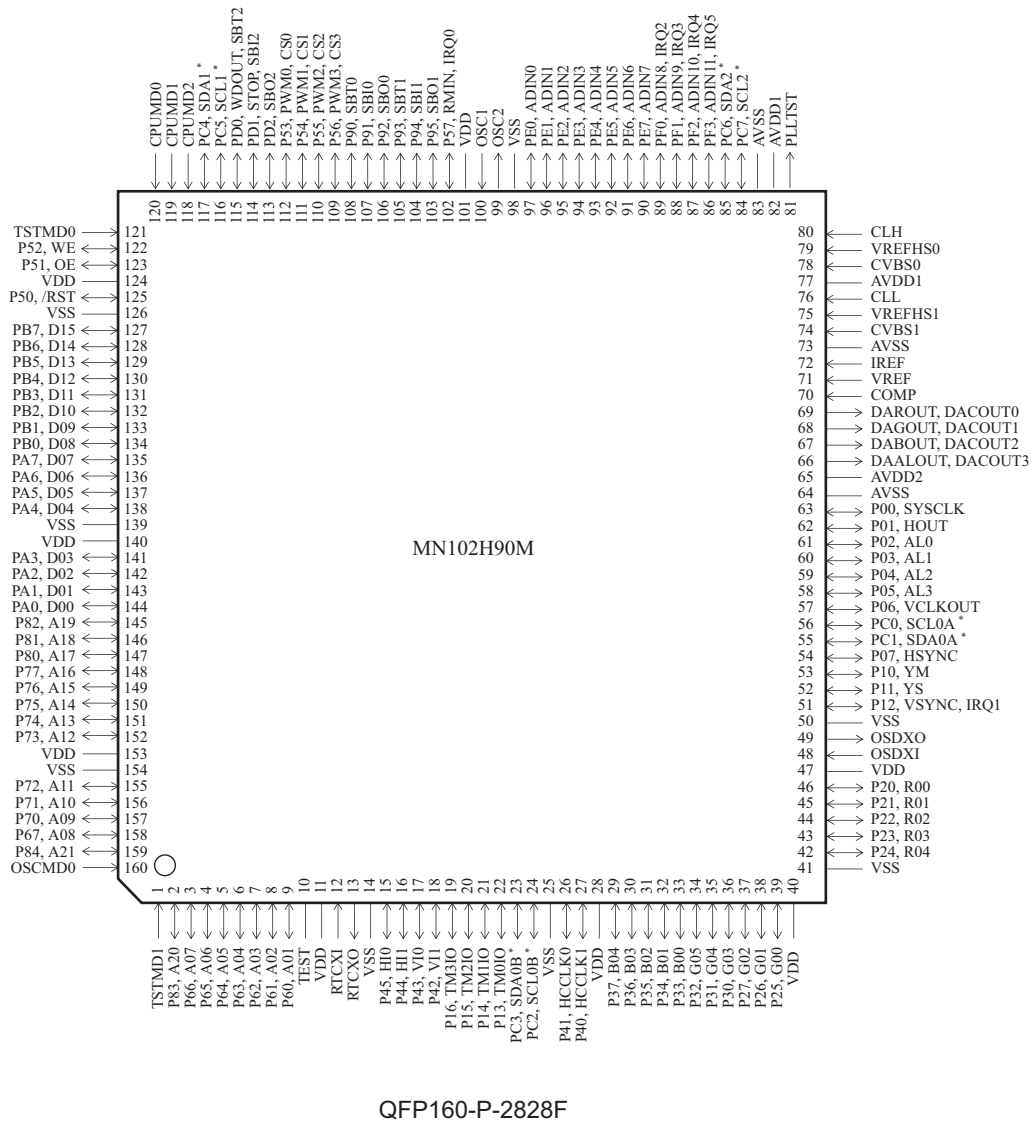
Remote control input discriminant circuit, real time clock, hcounter built-in

## ■ Development tools

In-circuit Emulator

PX-ICE102H90-QFP160-P-2828F

■ Pin Assignment



Note)\*: 5 V dielectric N-ch. open drain output pin

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