SONY

CXP85890A

CMOS 8-bit Single Chip Microcomputer

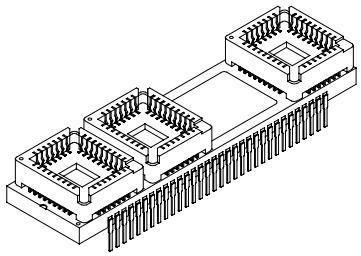
Piggyback/ evaluator type

Description

The CXP85890A is a CMOS 8-bit single chip microcomputer of biggyback/evaluator combined type, which is developed for evaluating the function of the CXP85840A/ 85848A/ 85856A.

For the CXP85890A, the custom font is supported.

64 pin PSDIP (Ceramic)



Structure

Silicon gate CMOS IC

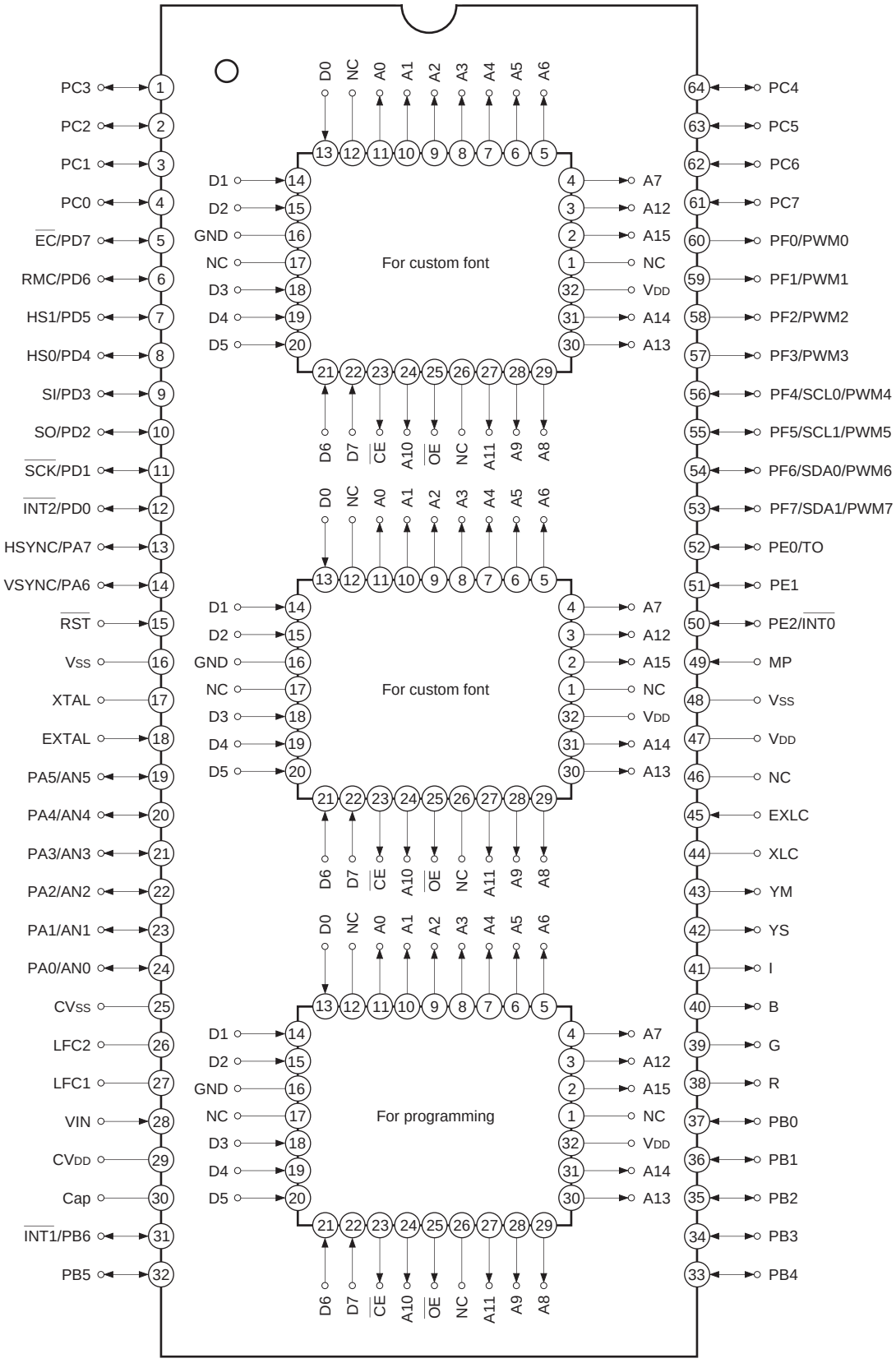
Features

- A wide instruction set (213 instructions) which covers various types of data
  - 16-bit operation/multiplication and division/ Boolean bit operation instructions
- Minimum instruction cycle 333ns at 12MHz operation
- Applicable EPROM
  LCC type 27C512 (Maximum 56K bytes are available.)
- Incorporated RAM 2176 bytes (Excludes closed caption decoder and VRAM for on-screen display)
- EPROM for custom font
  LCC type 27C512 (Maximum 6K bytes are available.)
- Peripheral functions
  - A/D converter: 8-bit 6-channel successive approximation method (Conversion time of 26.7µs at 12MHz)
  - Serial interface: 8-bit clock sync type, 1 channel
  - Timer: 8-bit timer; 8-bit timer/counter; 19-bit time-base timer
  - Closed caption decoder: Data slicer; Corresponds to FCC (EDS supported), 8 × 13 dots, 192 character types; 15 character colors, 4 lines × 34 characters; frame background 15 colors/ half blanking; italic, underline, vertical scrolling
  - On-screen display (OSD) function: 12 × 16 dots, 192 character types, 15 character colors; 2 lines × 24 characters; frame background 8 colors/ half blanking; background on full screen 15 colors/ half blanking; edging and vertical scrolling for every line; jitter elimination circuit; sprite OSD, 12 × 16 dots, 1 screen, 8 colors for every dot
  - I^2C bus interface
  - PWM output: 8 bits, 8 channels
  - Remote control reception circuit: 8-bit pulse measurement counter, 6-stage FIFO
  - HSYNC counter: 2 channels
  - Watchdog timer
- Interruption: 15 factors, 15 vectors, multi-interruption possible
- Standby mode: Sleep
- Package: 64-pin ceramic PSDIP (Supports custom font)

Note) Mask option is fixed by the CXP85890A. Refer to the Products List for details.

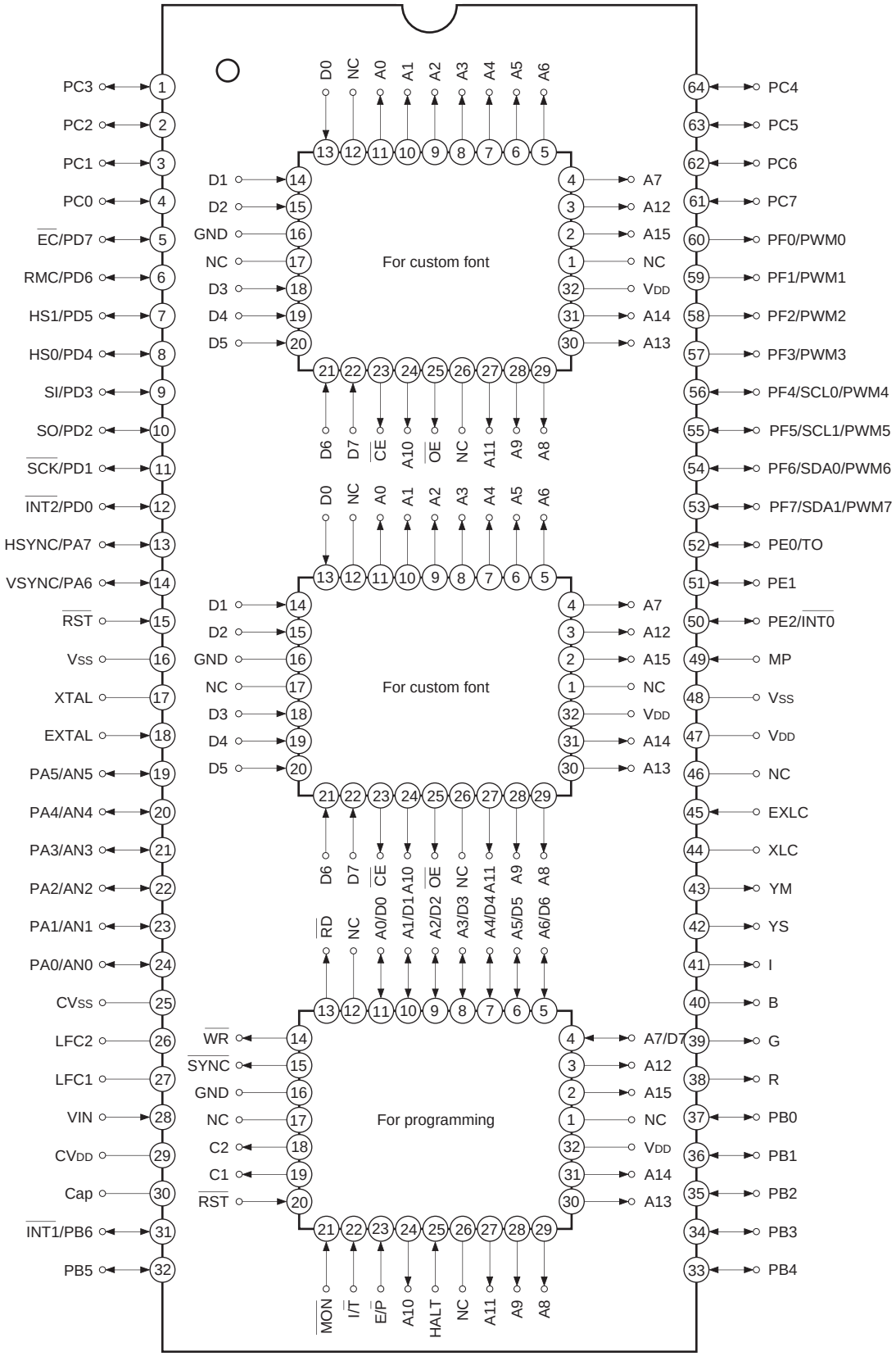
E97829-PS

Pin Assignment in Piggyback Mode (Top View)



Note) 1. NC (Pin 46) is always connected to V_{DD}.
2. V_{SS} (Pins 16 and 48) are both connected to GND.
3. MP (Pin 49) is always connected to GND.

Pin Assignment in Evaluator Mode (Top View)

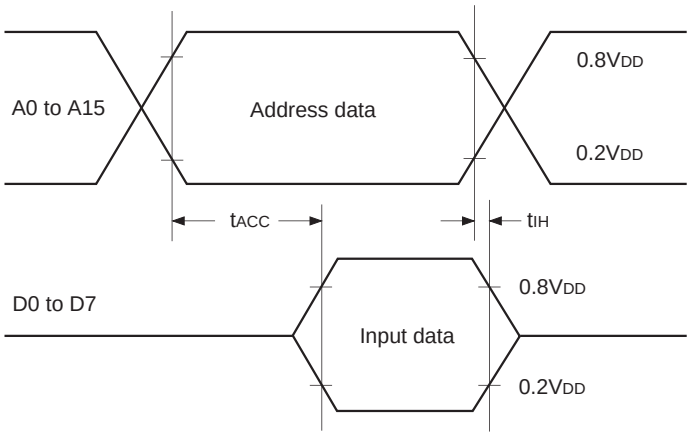


Note) 1. NC (Pin 46) is always connected to V_{DD}.
2. V_{SS} (Pins 16 and 48) are both connected to GND.
3. MP (Pin 49) is always connected to GND.

EPROM Read Timing

(Ta = –20 to +75°C, V_{DD} = 4.5 to 5.5V, Vss = 0V)

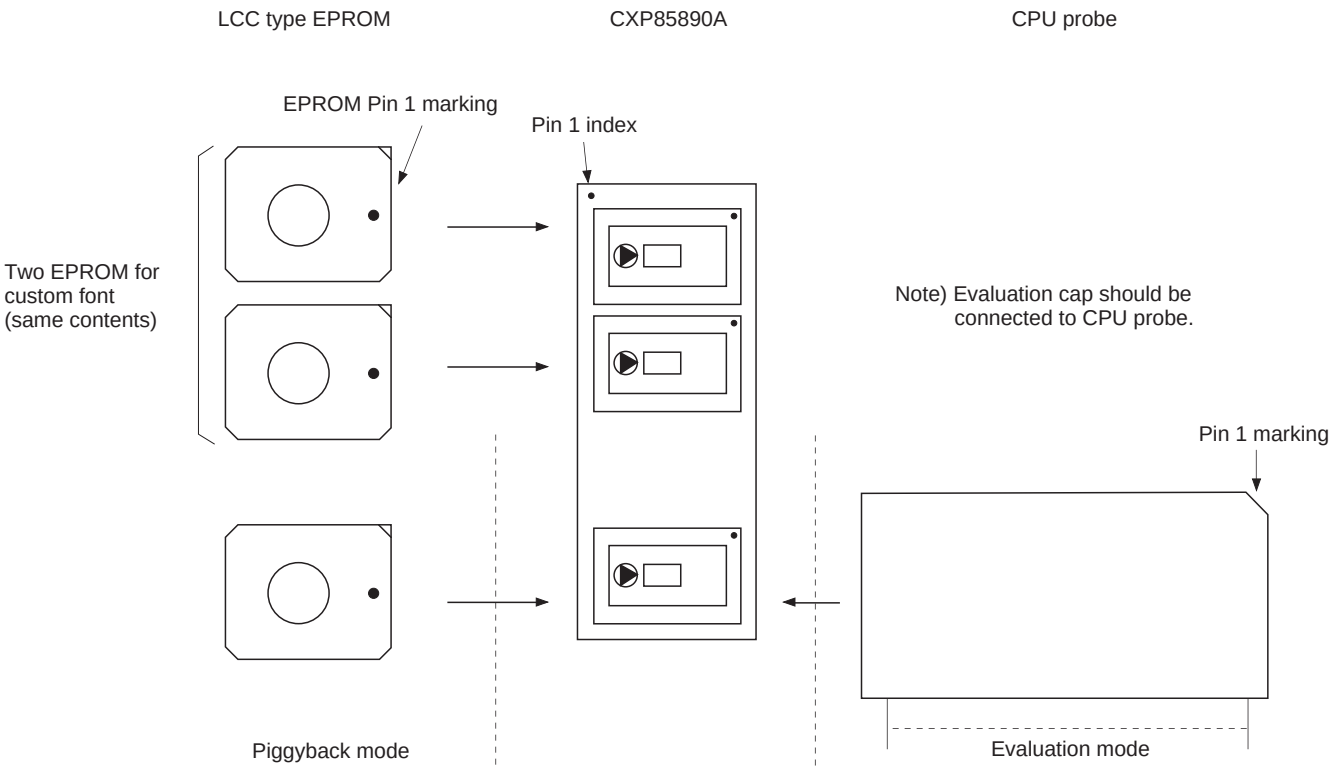
Item	Symbol	Pin	Min.	Max.	Unit
Address → Data input delay time	t_{ACC}	A0 to A15 D0 to D7		100	ns
Address → Data hold time	t_{IH}	A0 to A15 D0 to D7	0		ns



Product List

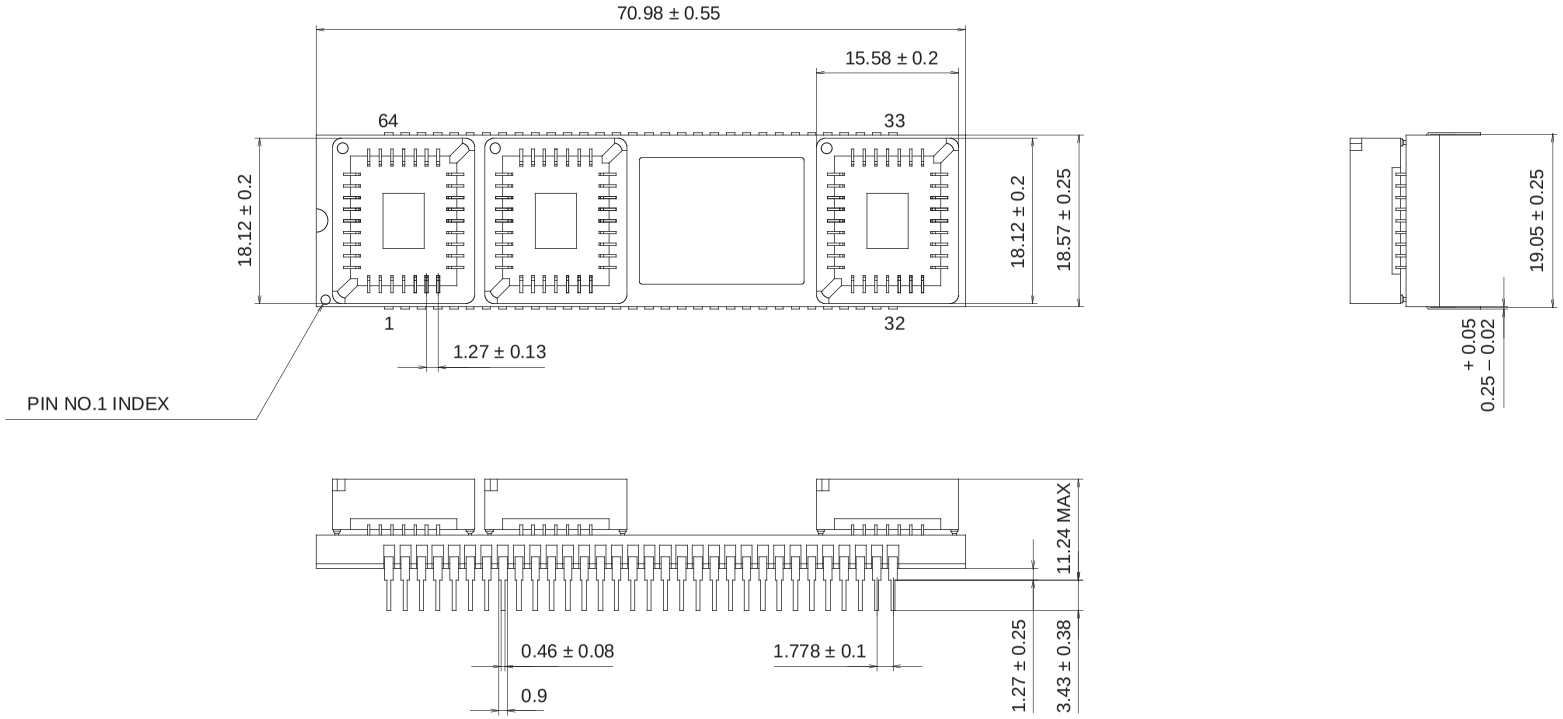
Option item	Products			
	Mask			Piggyback/evaluator
	CXP85840A	CXP85848A	CXP85856A	CXP85890A-U01S
Package	64-pin plastic SDIP			64-pin ceramic PSDIP
Oscillation clock	12MHz			
ROM capacity	40K bytes	48K bytes	56K bytes	EPROM 56K bytes
Reset pin pull-up resistor	Existent/Non-existent			Existent
Font data	User designation			EPROM 6K bytes

Piggyback mode/evaluator mode can be switched as shown below.



Package Outline Unit: mm

64PIN PSDIP (CERAMIC)



SONY CODE	PSDIP-64C-02
EIAJ CODE	ADIP064-C-0750-B
JEDEC CODE	————

PACKAGE STRUCTURE

PACKAGE MATERIAL	CERAMIC
LEAD TREATMENT	GOLD PLATING
LEAD MATERIAL	42 ALLOY
PACKAGE WEIGHT	22.8g