

## CMOS 8-bit Single Chip Microcomputer

Piggyback/  
evaluator type

### Description

The CXP88800 is a CMOS 8-bit single chip micro-computer of piggyback/evaluator combined type, which is developed for evaluating the function of the CXP88616/88624, CXP88732/88740/88748 and CXP88852/88860.

### Features

- A wide instruction set (213 instructions) which cover various types of data.
  - 16-bit operation/multiplication and division/boolean bit operation instructions
- Minimum instruction cycle

- Applicable EPROM

- Incorporated RAM capacity
- Peripheral functions
  - A/D converter

— Serial interface

— Timer

— High precision timing pattern generator

— PWM/DA gate output

— Analog signal input circuit

— CTL write/rewrite circuit

— Servo input control

— VSYNC separator

— FRC capture unit

— PWM output

— VISS/VASS circuit

— Remote control receiving circuit

— Tri-state output

— Pseudo HSYNC output function

— High-speed head switching circuit

- Interruption
- Standby mode
- Package

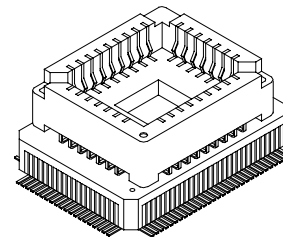
Note) Mask option depends on the type of the CXP88800. Refer to the Products List for details.

### Structure

Silicon gate CMOS IC

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100 pin QFP (Ceramic)



250ns at 16MHz operation

122μs at 32kHz operation

LCC type 27C512

(Maximum capacity : 60K bytes for option1,  
32K bytes for option2)

1600 bytes

8-bit, 8-channel, successive approximation method  
(Conversion time of 20.0μs/16MHz)

Incorporated 8-bit and 8-stage FIFO

(auto transfer for 1 to 8 bytes), 1 channel

8-bit clock synchronous type, 1 channel

8-bit timer, 8-bit timer/counter, 2 channels

19-bit time base timer, 32kHz timer/counter

PPG 19-pin, 32-stage programmable, RTG 5 pins, 2 channels

5-bit, 8-stage FIFO (RECCTL control), 1 channel

PWM output 12 bits 2 channels

(Repetitive frequency 62.5kHz/16MHz)

DA gate pulse output 13 bits, 2 channels

Capstan FG amplifier circuit

Drum FG amplifier circuit

Drum PG amplifier circuit

PBCTL amplifier circuit

Recording current control circuit

Capstan FG, drum FG/PG, CTL input

Incorporated 26-bit and 8-stage FIFO

14 bits, 1 channel

Pulse duty auto detection circuit

8-bit pulse measurement counter with on-chip, 6-stage FIFO

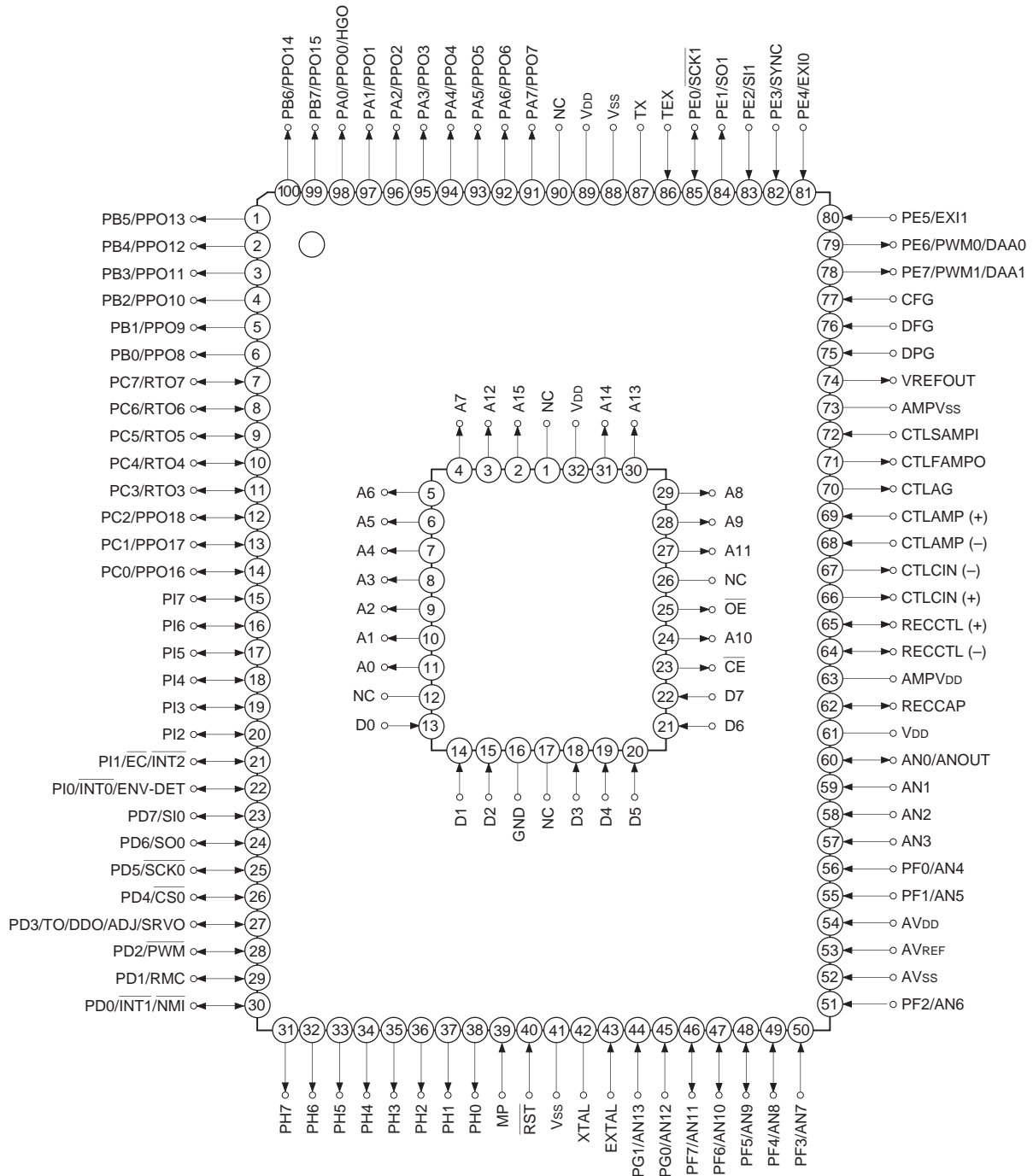
PPG output 1 pin, output 8 pins

20 factors, 15 vectors, multi-interruption possible

SLEEP/STOP

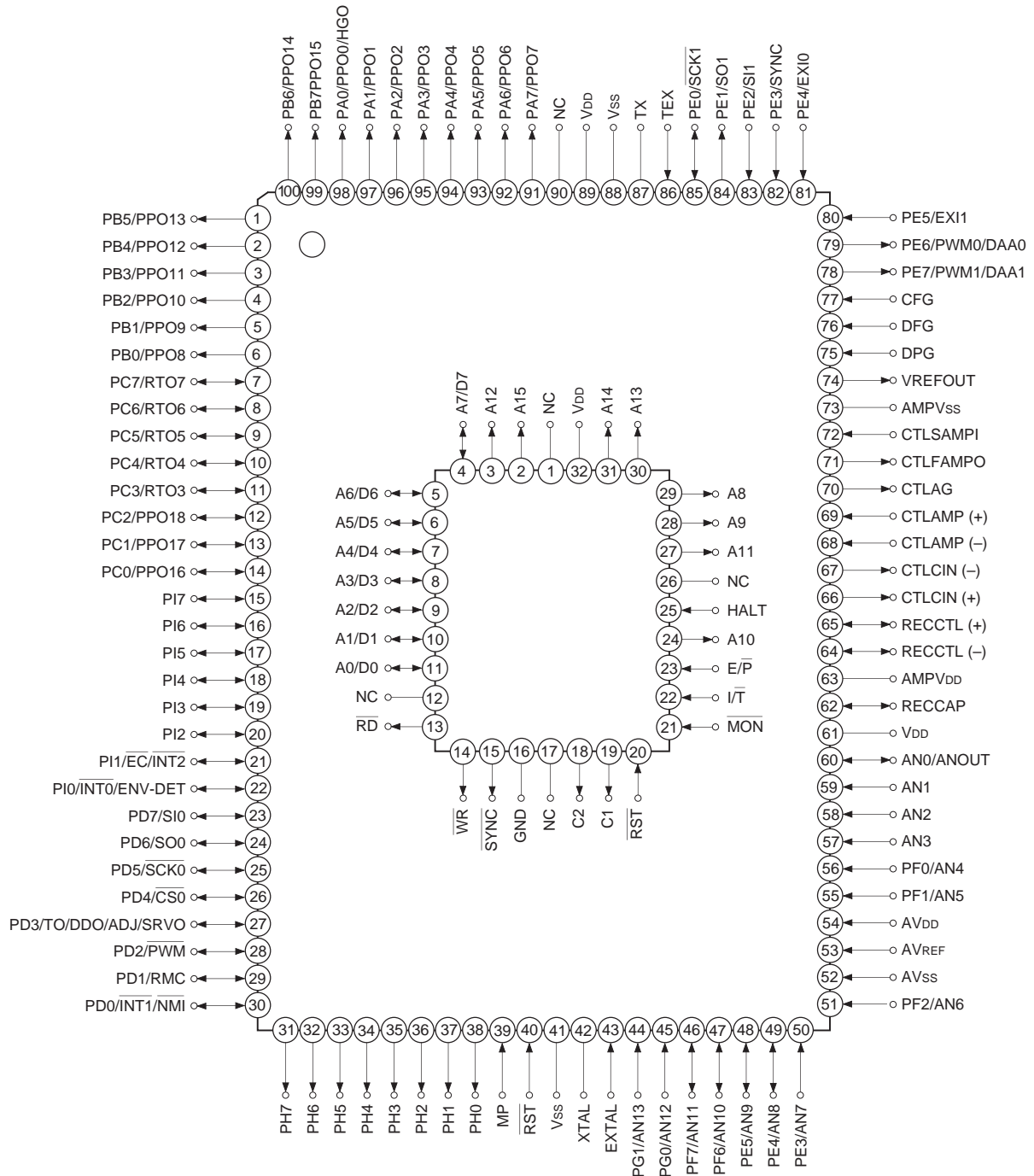
100-pin ceramic QFP

Pin Assignment in Piggyback Mode



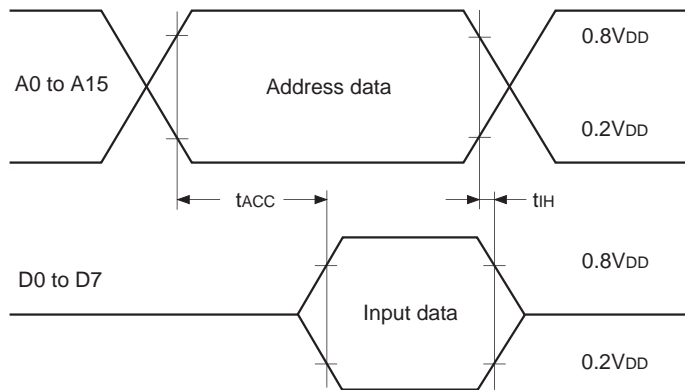
- Note)**
1. NC (Pin 90) is always connected to V<sub>DD</sub>.
  2. V<sub>DD</sub> (Pins 61 and 89) are both connected to V<sub>DD</sub>.
  3. V<sub>SS</sub> (Pins 41 and 88) are both connected to GND.
  4. MP (Pin 39) is always connected to GND.

Pin Assignment in Evaluator Mode



**EPROM Read Timing** ( $T_a = -20$  to  $+75^\circ\text{C}$ ,  $V_{DD} = 4.5$  to  $5.5\text{V}$ ,  $V_{SS} = 0\text{V}$ )

Item	Symbol	Pin	Min.	Max.	Unit
Address → data input delay time	$t_{ACC}$	A0 to A15 D0 to D7		75	ns
Address → data hold time	$t_{IH}$	A0 to A15 D0 to D7	0		ns

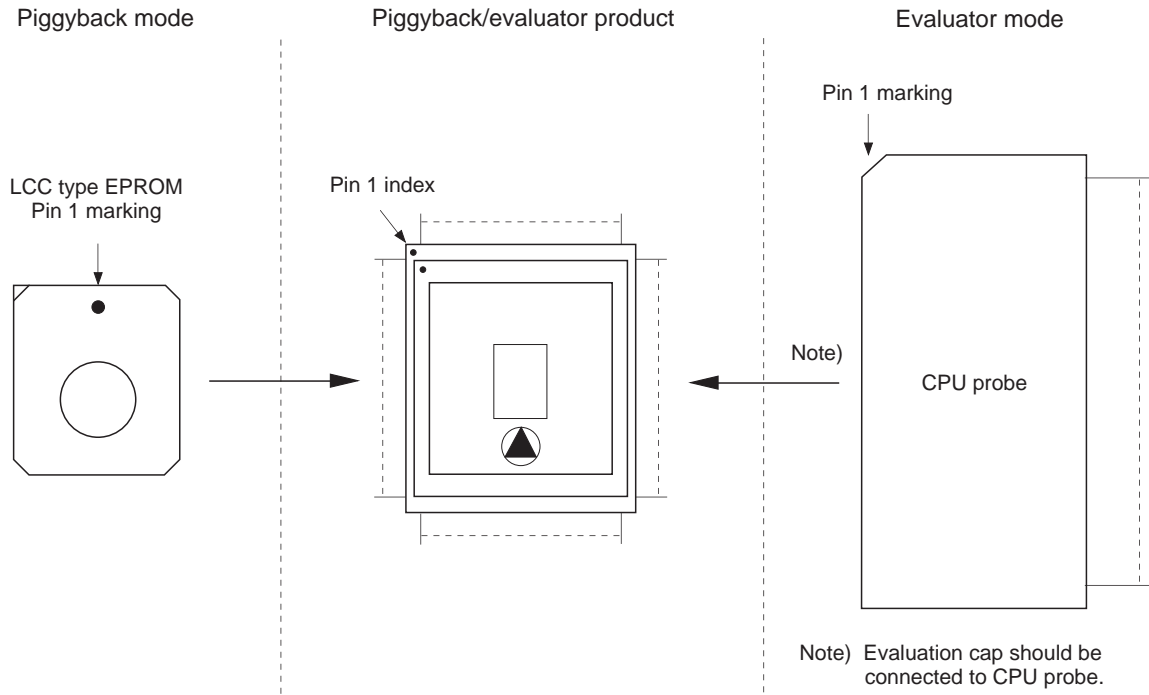


**Product List**

Option item	Products									
	Mask product								Piggyback/evaluator product	
	CXP 88616	CXP 88624	CXP 88732	CXP 88740	CXP 88748	CXP 88852	CXP 88860	CXP88800 -U01Q	CXP88800 -U02Q	
Package	100-pin plastic QFP								100-pin ceramic QFP	
ROM capacity	16K bytes	24K bytes	32K bytes	40K bytes	48K bytes	52K bytes	60K bytes	EPROM 60K bytes	EPROM 32K bytes	
	27C512 used									
Reset pin pull-up resistor	Existent/Non-existent								Existent	
Input circuit format*1	CMOS schmitt/TTL schmitt								TTL schmitt	
Power-on reset circuit	Existent/Non-existent		Non-existent						Non-existent	Existent

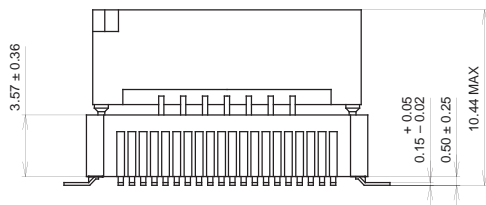
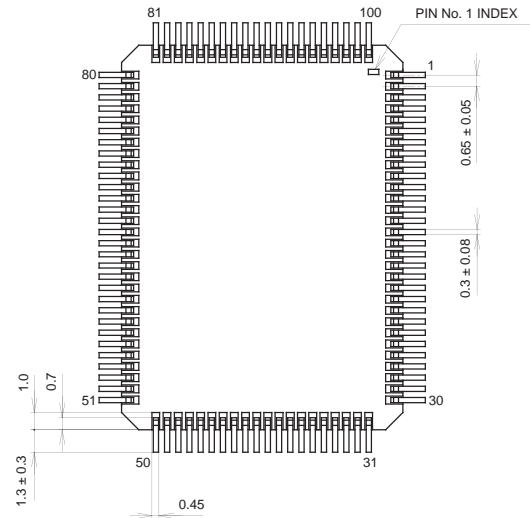
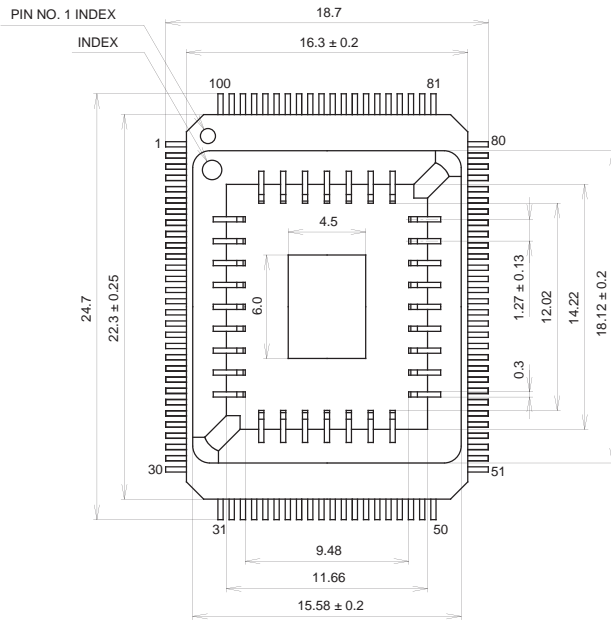
\*1) The input circuit format can be selected for PE3/SYNC.

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



Package Outline Unit: mm

100PIN PQFP (CERAMIC)



PACKAGE STRUCTURE

SONY CODE	PQFP-100C-L01
EIAJ CODE	AQFP100-C-0000-A
JEDEC CODE	_____

PACKAGE MATERIAL	CERAMIC
LEAD TREATMENT	GOLD PLATING
LEAD MATERIAL	42 ALLOY
PACKAGE WEIGHT	5.7g