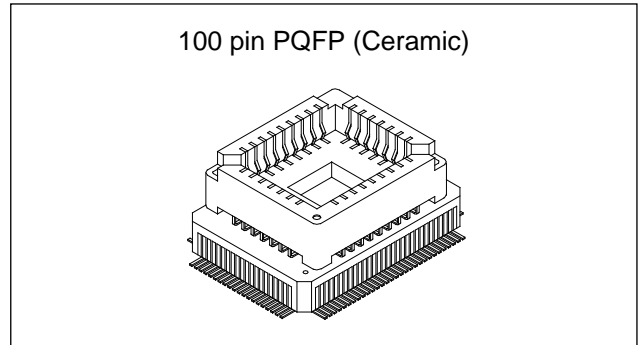


**CMOS 8-bit Single Chip Microcomputer**

**Piggyback/  
evaluator type**

**Description**

The CXP82400A is a CMOS 8-bit single chip micro-computer of piggyback/evaluator combined type, which is developed for evaluating the function of the CXP82432A/82440A.



**Features**

- Wide-range instruction system (213 instructions) to cover various types of data
  - 16-bit operation/multiplication and division/Boolean bit operation instructions
- Minimum instruction cycle      400ns at 10MHz operation  
 122µs at 32kHz operation
- Applicable EPROM                    LCC type 27C512 (Maximum 40K bytes are available.)
- Incorporated RAM capacity        1120 bytes (Including fluorescent display data area)
- Peripheral functions
  - A/D converter                        8-bit, 8-channel, successive approximation method  
 (Conversion time of 32µs/10MHz)
  - Serial interface                      Incorporated 8-bit, 8-stage FIFO  
 (Auto transfer for 1 to 8 bytes), 1 channel
  - Timers                                    8-bit clock sync type, 1 channel  
 8-bit timer  
 8-bit timer/counter  
 19-bit time base timer  
 16-bit capture timer/counter  
 32kHz timer/counter
  - Fluorescent display panel controller/driver  
 Maximum of 384 segments display possible  
 1 to 16-digit dynamic display  
 Dimmer function  
 High voltage drive output (40V)  
 On-chip pull-down resistor (Mask option)  
 Hardware key scan function  
 (Maximum 16 × 8 key matrix compatible)
  - Remote control receiving circuit    8-bit pulse measurement counter with on-chip 6-stage FIFO
  - PWM output                            14 bits, 1 channel
  - CTL duty detection circuit
  - High-speed output circuit            RTG 4pins
- Interruption                            19 factors, 15 vectors, multi-interruption possible
- Standby mode                            SLEEP/STOP
- Package                                    100-pin ceramic QFP

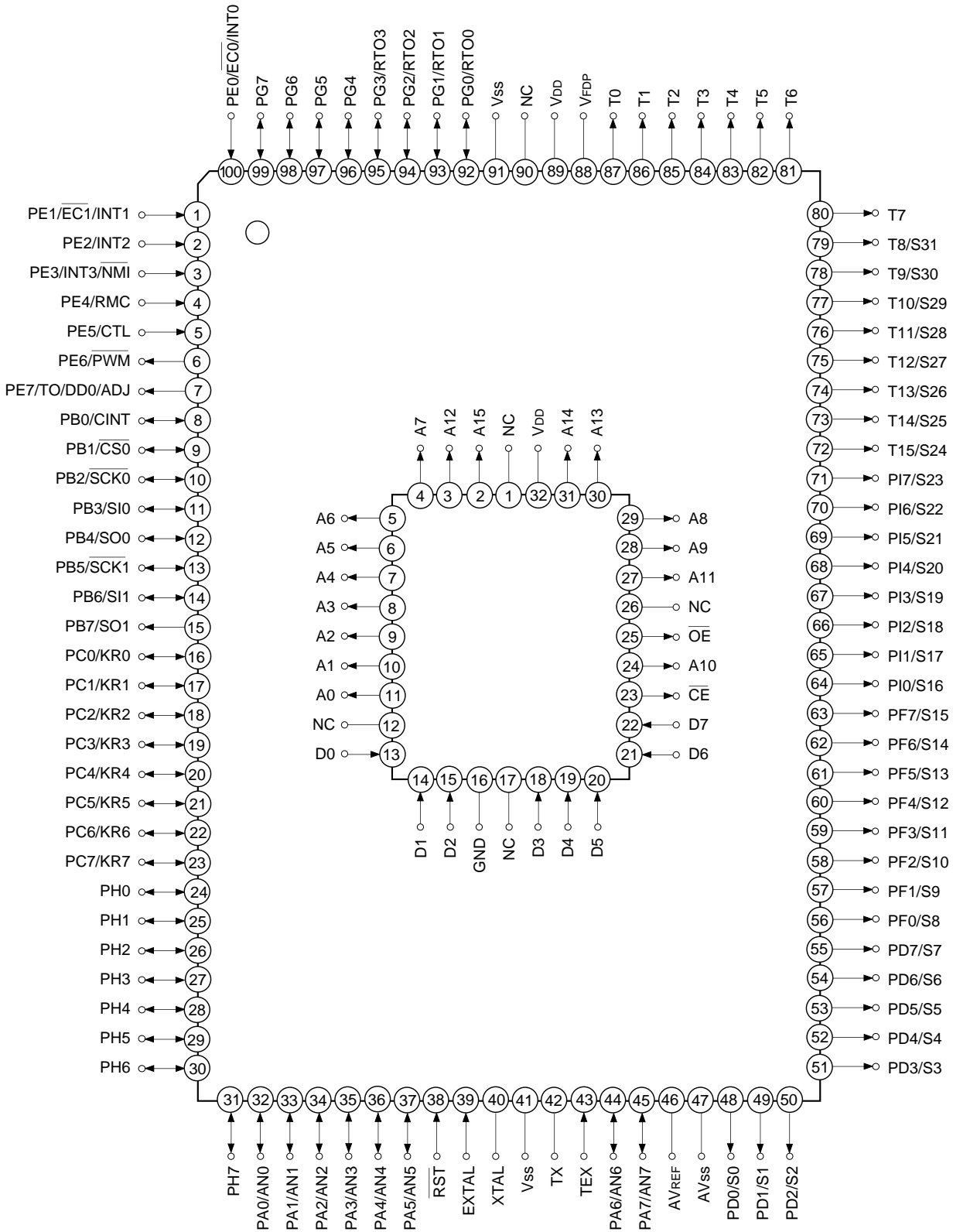
**Note)** Mask option depends on the type of the CXP82400A. Refer to the Products List for details.

**Structure**

Silicon gate CMOS IC

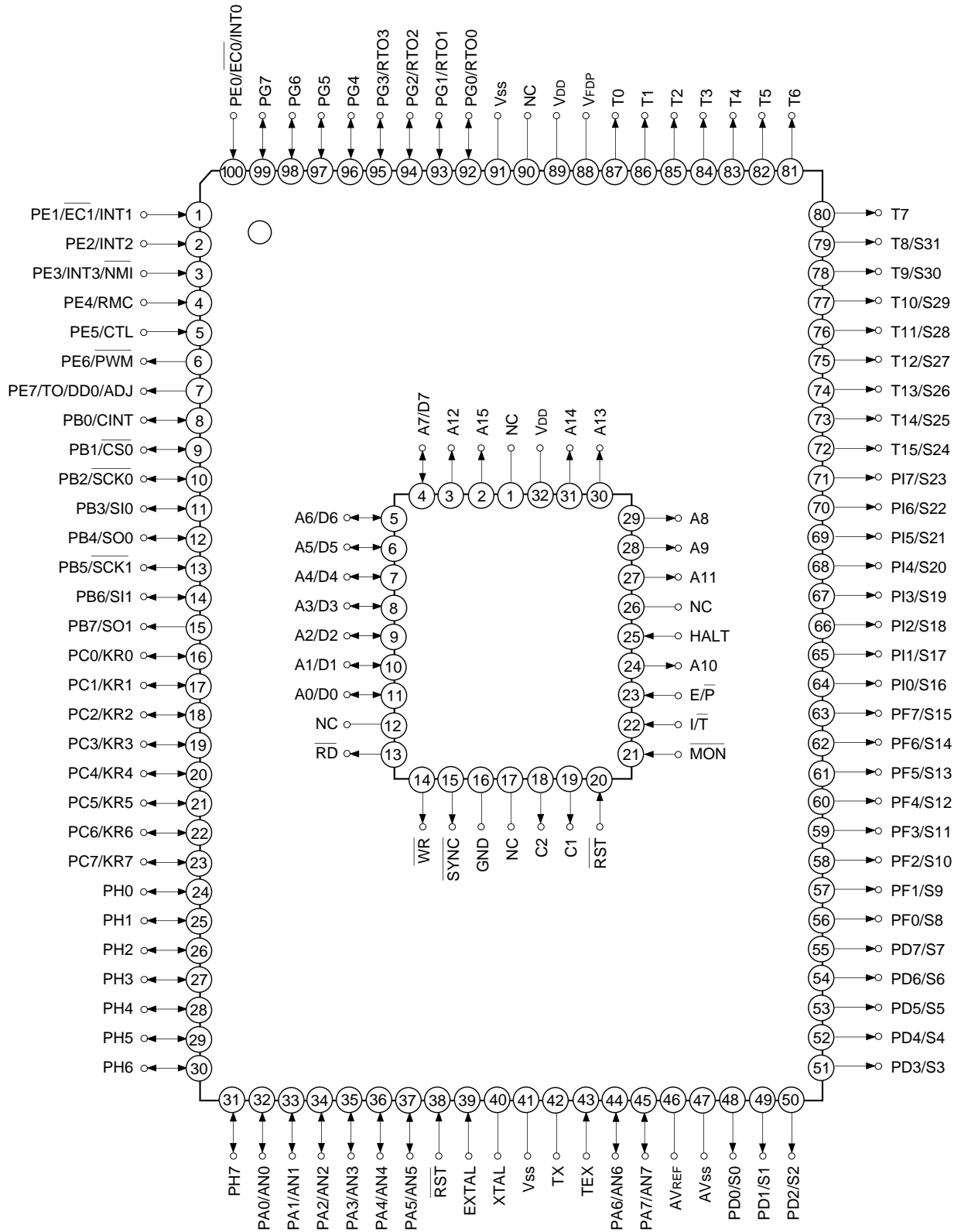
Sony reserves the right to change products and specifications without prior notice. This information does not convey any license by any implication or otherwise under any patents or other right. Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits.

Pin Configuration in Piggyback Mode



- Note)** 1. NC (Pin 90) is always connected to VDD.  
 2. Vss (Pins 41 and 91) are both connected to GND.

Pin Configuration in Evaluator Mode

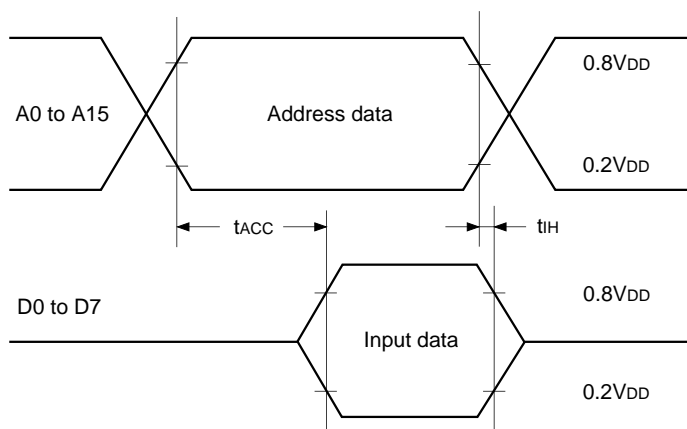


**Note)** 1. NC (Pin 90) is always connected to VDD.  
 2. Vss (Pins 41 and 91) are both connected to GND.

**EPROM Read Timing**

( $T_a = -20$  to  $+75^\circ\text{C}$ ,  $V_{cc} = 4.5$  to  $5.5\text{V}$ ,  $V_{ss} = 0\text{V}$  reference)

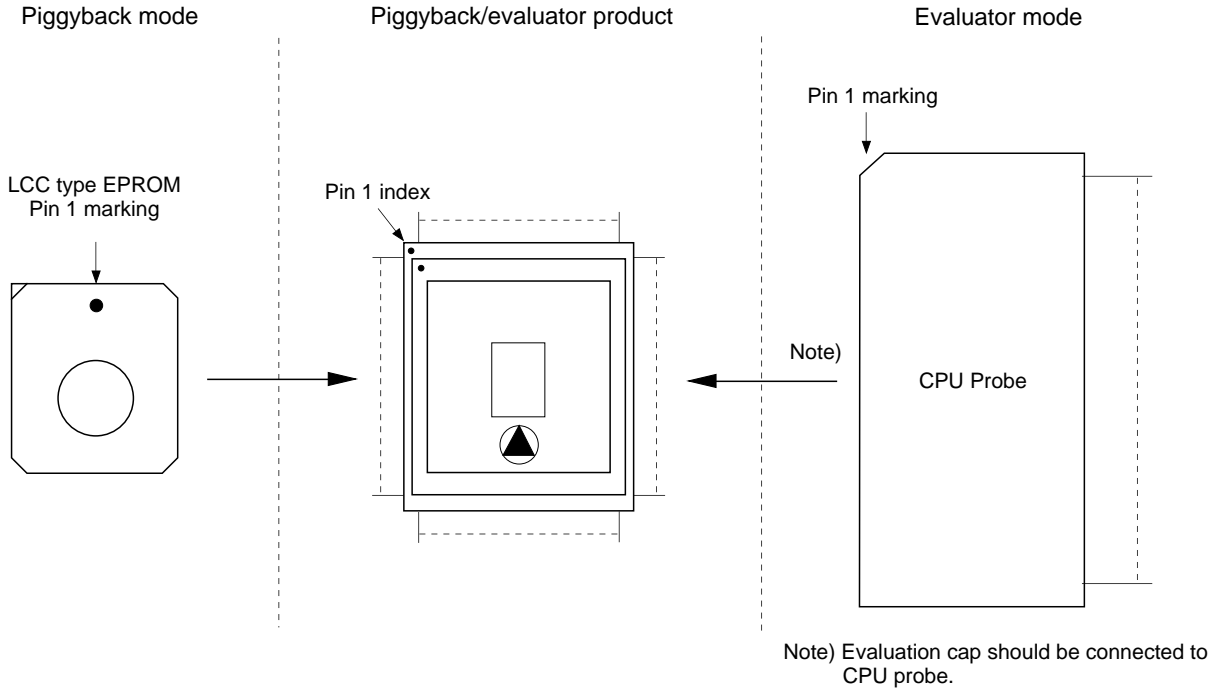
Item	Symbol	Pins	Min.	Max.	Unit
Address → Data Input delay time	$t_{ACC}$	A0 to A15 D0 to D7		120	ns
Address → Data Hold time	$t_{IH}$	A0 to A15 D0 to D7	0		ns



**Products List**

Option item	Products		
	Mask type		Piggyback/evaluator type
	CXP82432A	CXP82440A	CXP82400A-U01Q
Package	100-pin plastic QFP		100-pin ceramic PQFP
ROM capacitance	32K bytes	40K bytes	EPROM 40K bytes
Pull-up resistance for reset pin	Existent/Non-existent		Existent
Pull-down resistance for high voltage drive pin	Existent/Non-existent		Existent: T0 to T15/S24 Non-existent: PD0/S0 to PI7/S23

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



Package Outline Unit: mm

100PIN PQFP (CERAMIC)

