

**CMOS 8-bit Single Chip Microcomputer****Piggyback/  
evaluator type****Description**

The CXP82000 is a CMOS 8-bit single chip microcomputer of piggyback/evaluator combined type, which is developed for evaluating the function of the CXP82052/82060.

**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     250ns at 16MHz operation  
                                      122µs at 32kHz operation
- Applicable EPROM             LCC type 27C512 (Maximum 60K bytes are available.)
- Incorporated RAM capacity   3984 bytes (Including fluorescent display data area)

- Peripheral functions

- A/D converter
- Serial interface
- Timers
- Fluorescent display panel controller/driver

8-bit, 8-channel, successive approximation method  
(Conversion time of 1.6µs/16MHz)

Incorporated buffer RAM  
(Auto transfer for 1 to 32 bytes), 1 channel  
8-bit clock sync type (MSB/LSB first selectable), 1 channel  
Start-stop sync type(UART), 1 channel

8-bit timer  
8-bit timer/counter  
19-bit time base timer  
16-bit capture timer/counter  
32kHz timer/counter

- Remote control receiving circuit
  - PWM output
- Interruption                   16 factors, 15 vectors, multi-interruption possible
  - Standby mode                 SLEEP/STOP
  - Package                        100-pin ceramic PQFP

- Fluorescent display panel controller/driver   Supports the universal grid fluorescent display panel.  
  High voltage drive output port of 56 pins (40V)  
  Maximum of 640 segments display possible  
  Display timing number of 1 to 20  
  Dimmer function  
  Incorporated pull-down resistor (Mask option)  
  Hardware key scan function  
  (Maximum 16 × 8 key matrix compatible)

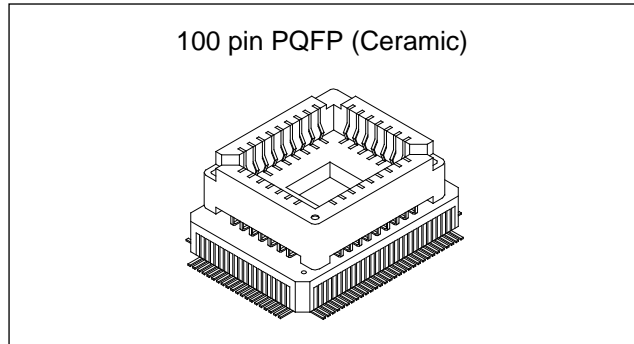
- Remote control receiving circuit             8-bit pulse measurement counter with on-chip 6-stage FIFO
  - PWM output                                     14 bits, 1 channel
- Interruption                   16 factors, 15 vectors, multi-interruption possible
  - Standby mode                 SLEEP/STOP
  - Package                        100-pin ceramic PQFP

**Note)** Mask option depends on the type of the CXP82000. Refer to the Products List for details.

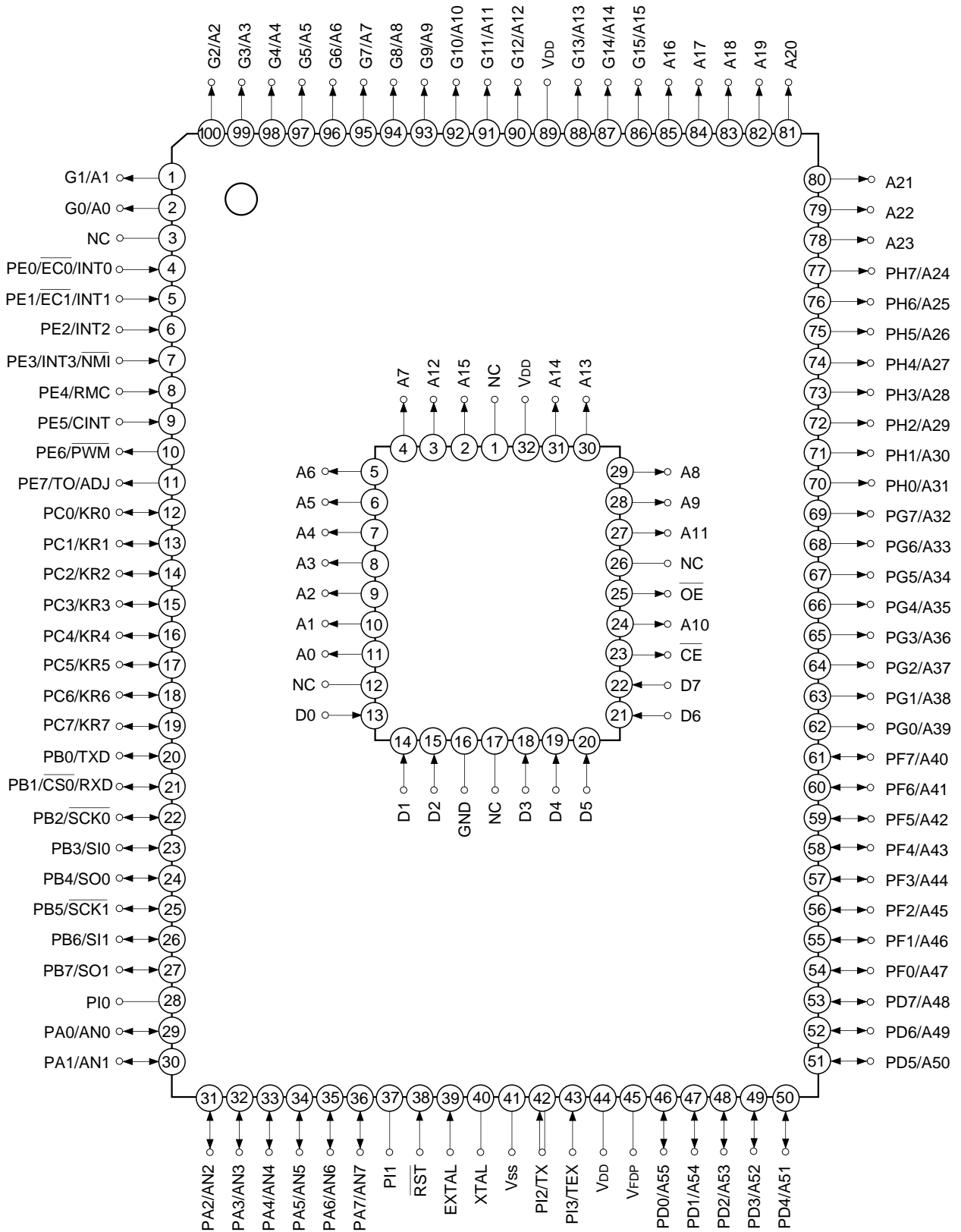
**Structure**

Silicon gate CMOS IC

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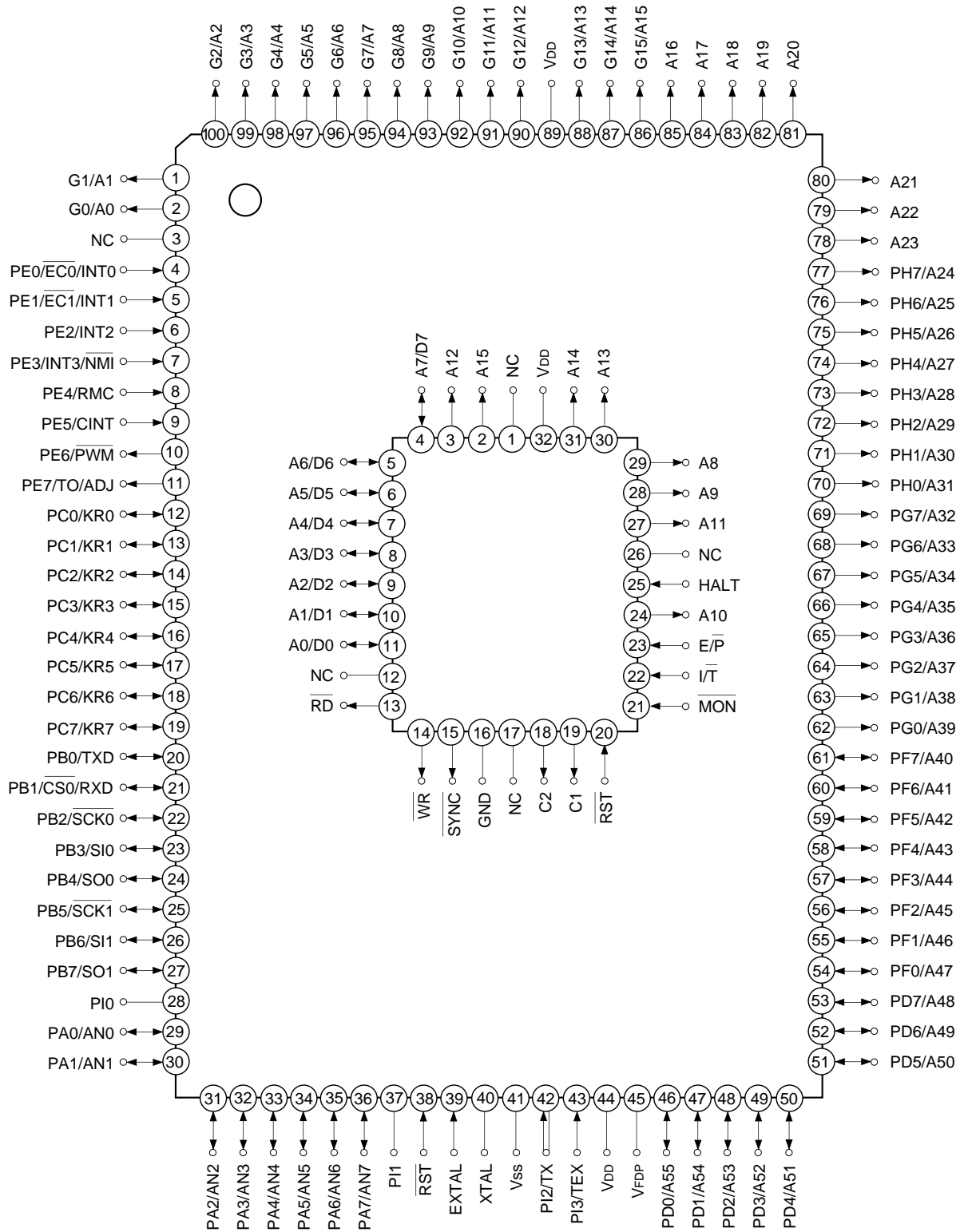


Pin Configuration in Piggyback Mode



- Note)**
1. Do not any connetions toNC (Pin 3).
  2. V<sub>DD</sub> (Pins 44 and 89) are both connected to V<sub>DD</sub>.

Pin Configuration in Evaluator Mode

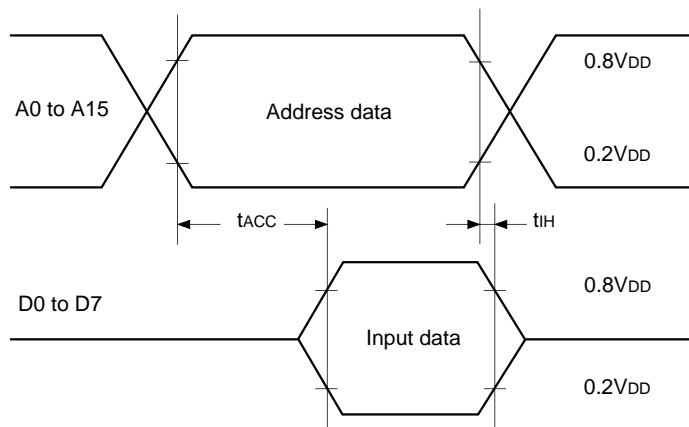


- Note)**
1. Do not any connetions to NC (Pin 3).
  2. V<sub>DD</sub> (Pins 44 and 89) are both connected to V<sub>DD</sub>.

**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)

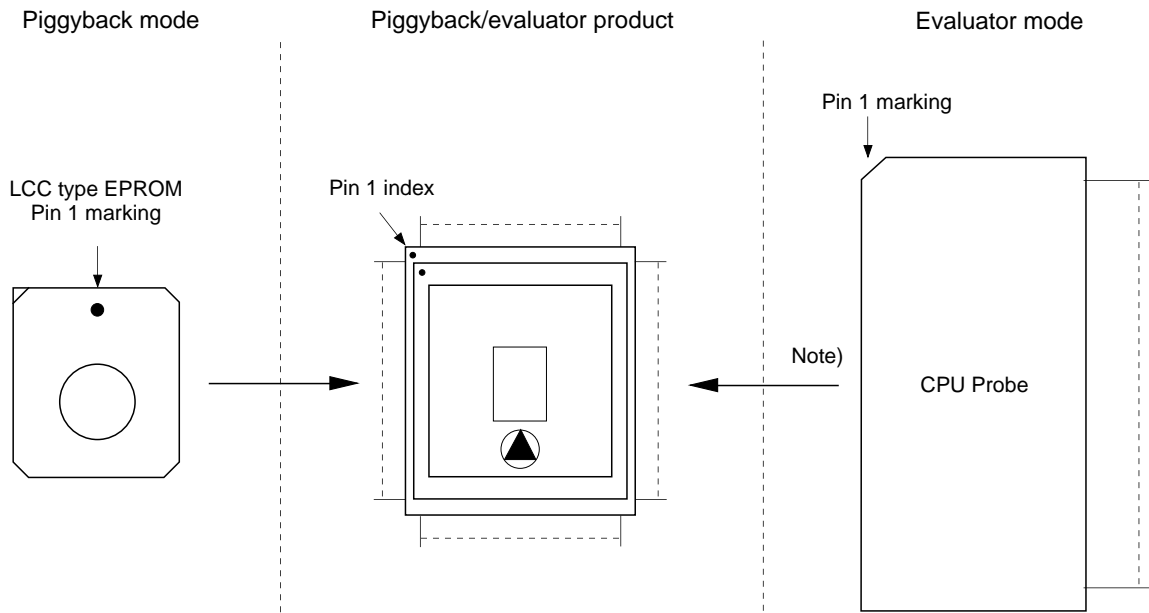
Item	Symbol	Pins	Min.	Max.	Unit
Address → Data input delay time	$t_{ACC}$	A0 to A15 D0 to D7		120	ns
Address → Data hold time	$t_{IH}$	A0 to A15 D0 to D7	0		ns



**Products List**

Option item	Products		
	Mask		Piggyback/evaluator
	CXP82052	CXP82060	CXP82000-U01Q
Package	100-pin plastic QFP		100-pin ceramic PQFP
ROM capacitance	52K bytes	60K bytes	EPROM 60K bytes
Pull-up resistance for reset pin	Existent/Non-existent		Existent
Pull-down resistance for high voltage drive pin	Existent/Non-existent		Existent: G0/A0 to A23 Non-existent: PD0/A55 to PH7/A24

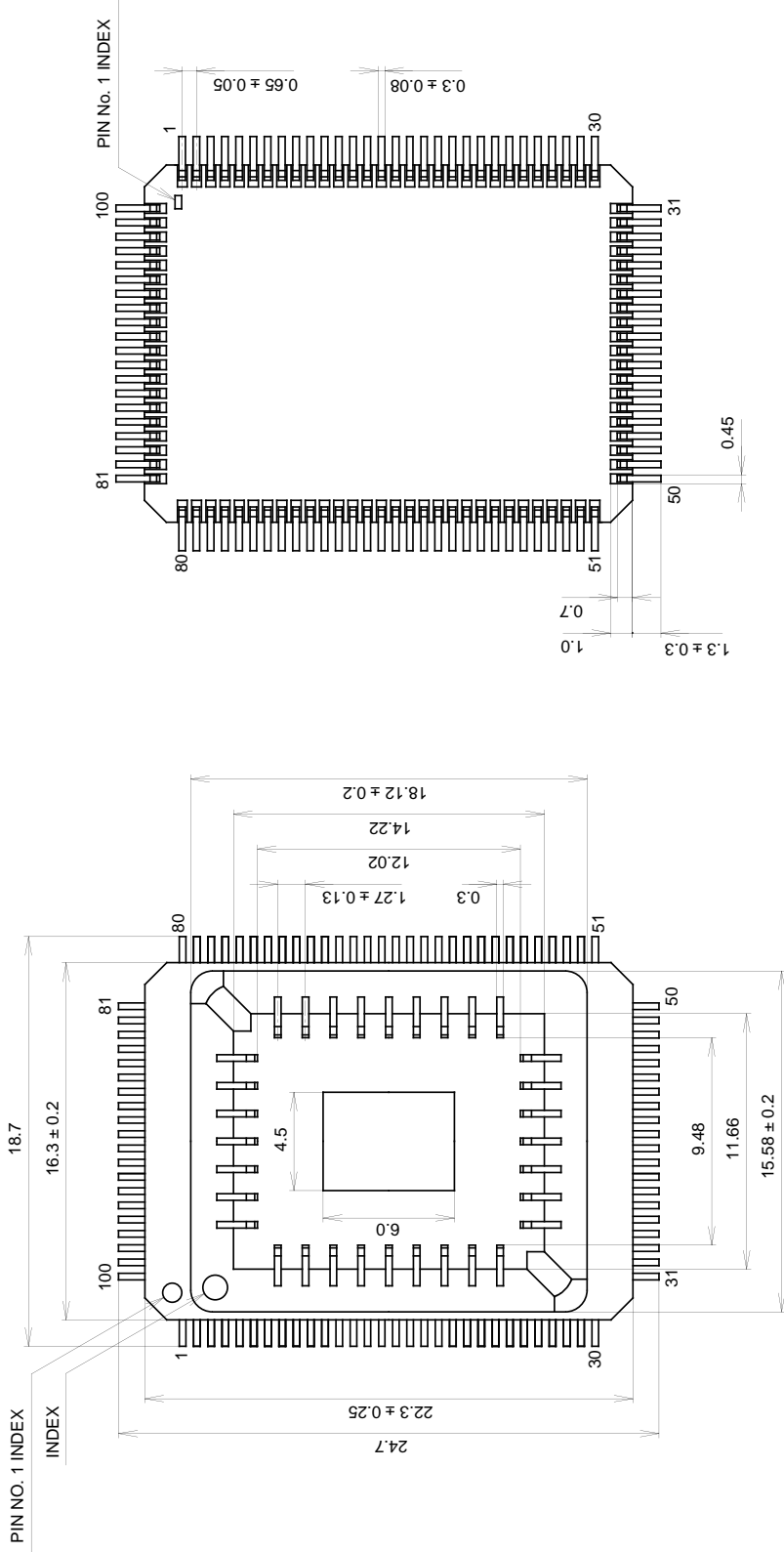
Piggyback mode/evaluator mode can be switched as shown below.



Note) Evaluation cap should be connected to CPU probe.

Package Outline Unit: mm

100PIN PQFP (CERAMIC)



SONY CODE	PQFP-100C-L01
EIA/J CODE	AQFP100-C-0000-A
JEDEC CODE	_____

PACKAGE STRUCTURE

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

