

## CMOS 8-bit Single Chip Microcomputer

Piggyback/  
evaluator

### Description

The CXP84500 is a CMOS 8-bit single chip micro-computer of piggyback/evaluator combined type, which is developed for evaluating the function of the CXP84540/84548.

### Features

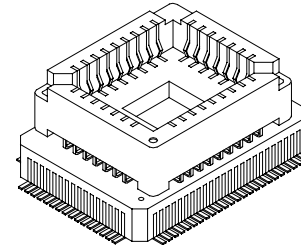
- A wide instruction set (213 instructions) which covers various types of data.
  - 16-bit operation/multiplication and division/Boolean bit operation instructions
- Minimum instruction cycle      143ns at 28MHz operation (4.5 to 5.5V)  
   200ns at 20MHz (3.0 to 5.5V)
- Applicable EPROM                    LCC type 27C512  
   (Maximum 60K bytes are available)
- Incorporated RAM capacity      1472 bytes
- Peripheral functions
  - A/D converter                      8 bits, 8 channels, successive approximation method  
   (Conversion time of 1.93 $\mu$ s at 28MHz/4.5 to 5.5V, 2.6 $\mu$ s at 20MHz/3.0 to 5.5V)
  - Serial interface                    Incorporated 8-bit, 8-stage FIFO (Auto transfer for 1 to 8 bytes,latch output function, MSB/LSB first selectable), 1 channel  
   8-bit clock sync type, 1 channel
  - Timer                                    8-bit timer/counter  
   19-bit time base timer  
   16-bit capture timer/counter
  - PWM output                        8 bits, 2 channels
- Interruption                            14 factors, 14 vectors, multi-interruption possible
- Standby mode                        SLEEP/STOP
- Package                                80-pin ceramic PQFP

**Note)** Mask option depends on the type of the CXP84500. Refer to the Products List for details.

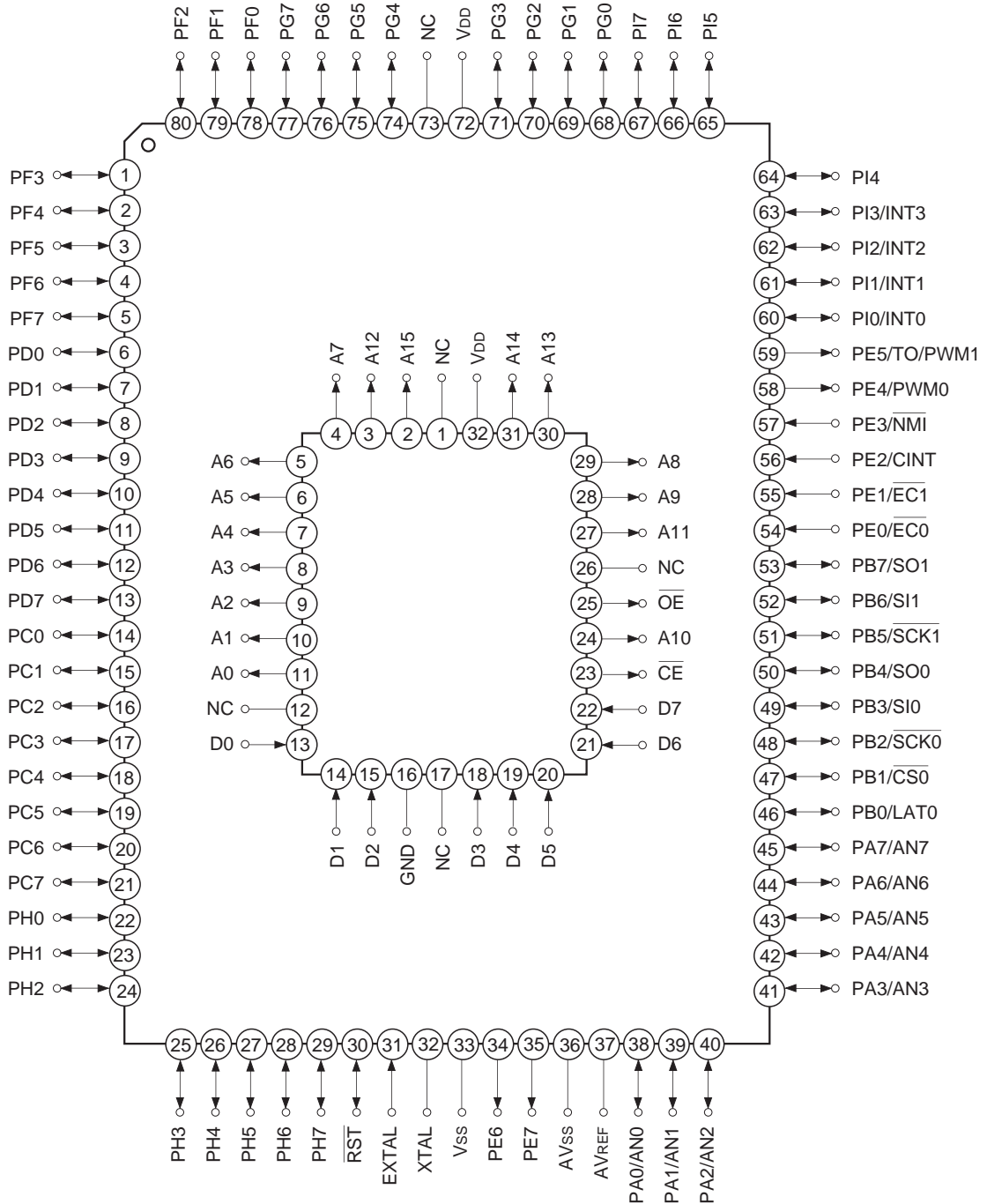
### Structure

Silicon CMOS IC

80 pin PQFP (Ceramic)



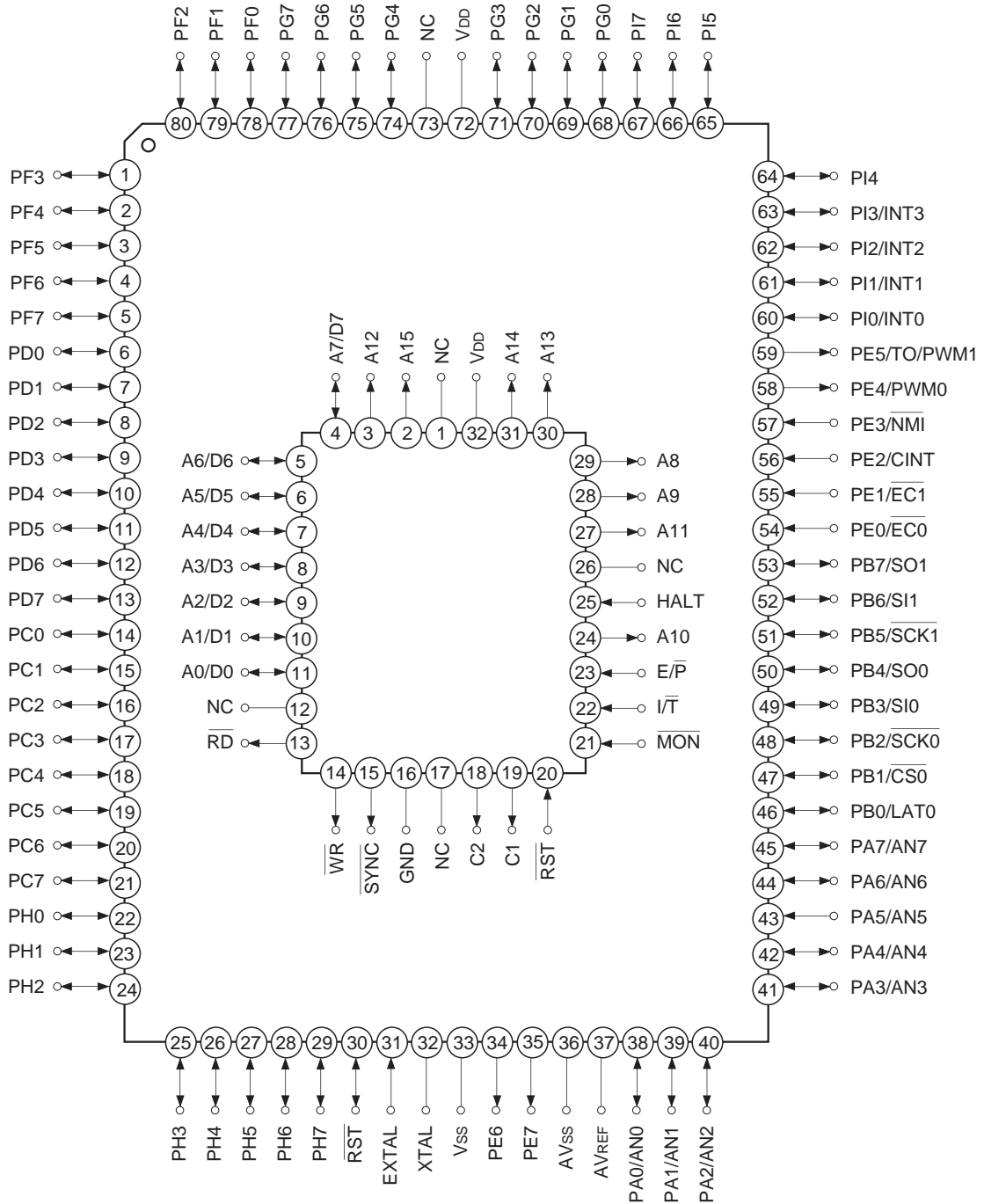
Pin Assignment in Piggyback Mode



**Note)** NC (pin 73) is left open.

However, this pin is used for the Flash EEPROM incorporated version (CXP845F60).

Pin Assignment in Evaluator Mode



**Note)** NC (pin 73) is left open.

However, this pin is used for the Flash EEPROM incorporated version (CXP845F60).

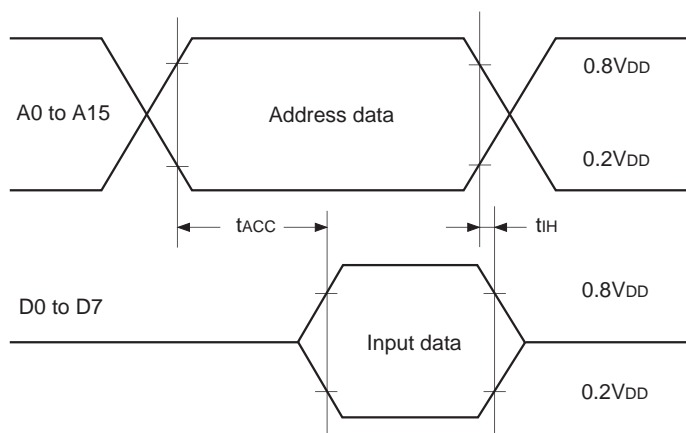
**EPROM Read Timing**

( $T_a = -20$  to  $+75^\circ\text{C}$ ,  $V_{DD} = 3.0$  to  $5.5\text{V}$ ,  $V_{SS} = 0\text{V}$  reference)

Item	Symbol	Pin	Min.	Max.	Unit
Address → data input delay time	$t_{ACC}$	A0 to A15 D0 to D7		60*1	ns
				40*2	
Address → data hold time	$t_{IH}$	A0 to A15 D0 to D7	0		ns

\*1 At 20MHz operation ( $V_{DD} = 4.5$  to  $5.5\text{V}$ ). The CXP27C700K is recommended.

\*2 At 20MHz operation ( $V_{DD} = 3.0$  to  $5.5\text{V}$ ) and 28MHz operation ( $V_{DD} = 4.5$  to  $5.5\text{V}$ ). The CXP27V700K is recommended.



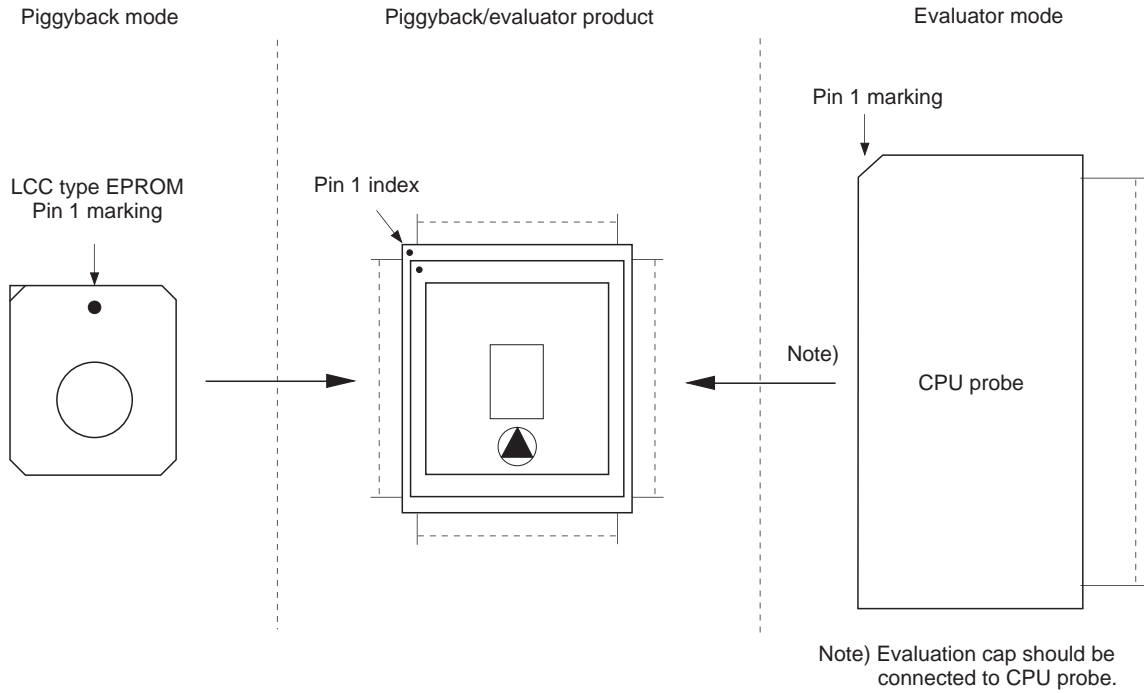
**Product List**

Option item	Products		
	Mask		Piggyback/evaluator
	CXP84540	CXP84548	CXP84500-U01Q CXP84500-U01R*1
Package	80-pin plastic QFP		80-pin ceramic PQFP
ROM capacity	40K bytes	48K bytes	EPROM 60K bytes
Reset pin pull-up resistor	Existent/Non-existent		Existent
Power-on reset circuit	Existent/Non-existent		Existent*2

\*1 LQFP package conversion adopter used.(SEK-80Q-65MM; attached for piggyback/evaluator)

\*2 Take the reset time which is more than the oscillation stabilization time by the external reset circuit because the power-on reset operation cannot be guaranteed for  $V_{DD} = 3.0$  to  $4.5\text{V}$ .

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



Package Outline Unit: mm

80PIN PQFP (CERAMIC)

