

# HD44850E

The HD44850E is an evaluation chip for 4-bit single-chip microcomputer, HMCS40 series. Its function is equivalent to HMCS45C except that it doesn't contain ROM. Instead, it has the function to address external memory (ROM or RAM). User can handle this evaluation chip by writing program into external program memory as well as the HMCS40 series chip in which program has been written. User program and system can be debugged by connecting this evaluation chip with external program memory in which user program is written to user systems.

The HD44850E provides 12-bit address outputs ( $A_0$  to  $A_{11}$ ) and 10-bit instruction input pins ( $O_1$  to  $O_{10}$ ) for the external program memory.  $\phi$  and TSTP pins are required for debugging programs, and H43, CMOS and D/E pins for selecting applicable chips.

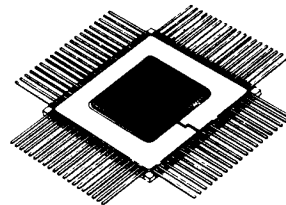
## ■ APPLICABLE CHIPS

HMCS42, 43, 44A, 45A  
(need to match level)  
HMCS42C, 43C, 44C, 45C

## ■ FUNCTION

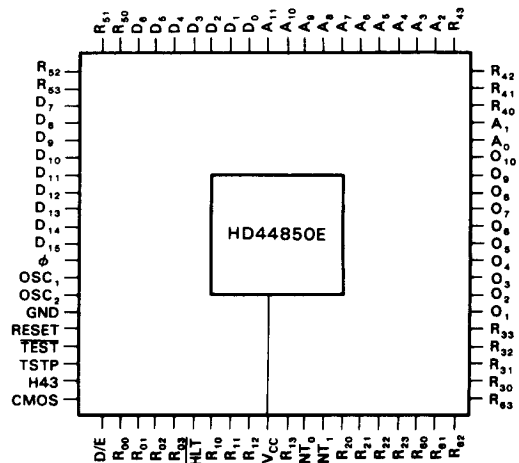
- Instruction Characteristics etc.; Same as the HMCS45C
- Address External ROM (2k)
- Address Output; Direct interface with EPROM ( $A_0$  to  $A_{11}$ )
- Instruction Input; EPROM or CMOS RAM or NMOS RAM ( $O_1$  to  $O_{10}$ )  
Direct interface with TTL
- CMOS/PMOS Selecting Input Pin
- Timer Halt Input
- I/O Enable/Disable Selecting Pin at Halt Output
- Address Output, Clock; CMOS Output
- Input Pins; Inputs with no Pull up MOS

HD44850E



(FC-80)

## ■ PIN ARRANGEMENT



(Top View)

## ■ PIN NAME

- $A_0$  to  $A_{11}$  : Address Output  
 $O_1$  to  $O_{10}$  : Instruction Input  
 $\phi$  : Word Timing  
TSTP : Timer Stop Input  
H43 : HMCS43/45A Selection  
CMOS : CMOS/PMOS Selection  
D/E : I/O Enable/Disable Selection Input in the Halt Mode  
 $R_{00}$  to  $R_{83}$  : I/O Common Port  
 $R_{80}$  to  $R_{83}$  : Output Port  
 $D_0$  to  $D_{15}$  : I/O Common Port  
OSC<sub>1</sub>, OSC<sub>2</sub> : Oscillator  
INT<sub>0</sub>, INT<sub>1</sub> : Interrupt  
RESET : External Reset  
HLT : Halt Pin  
V<sub>CC</sub> : Power Supply  
GND : Ground

