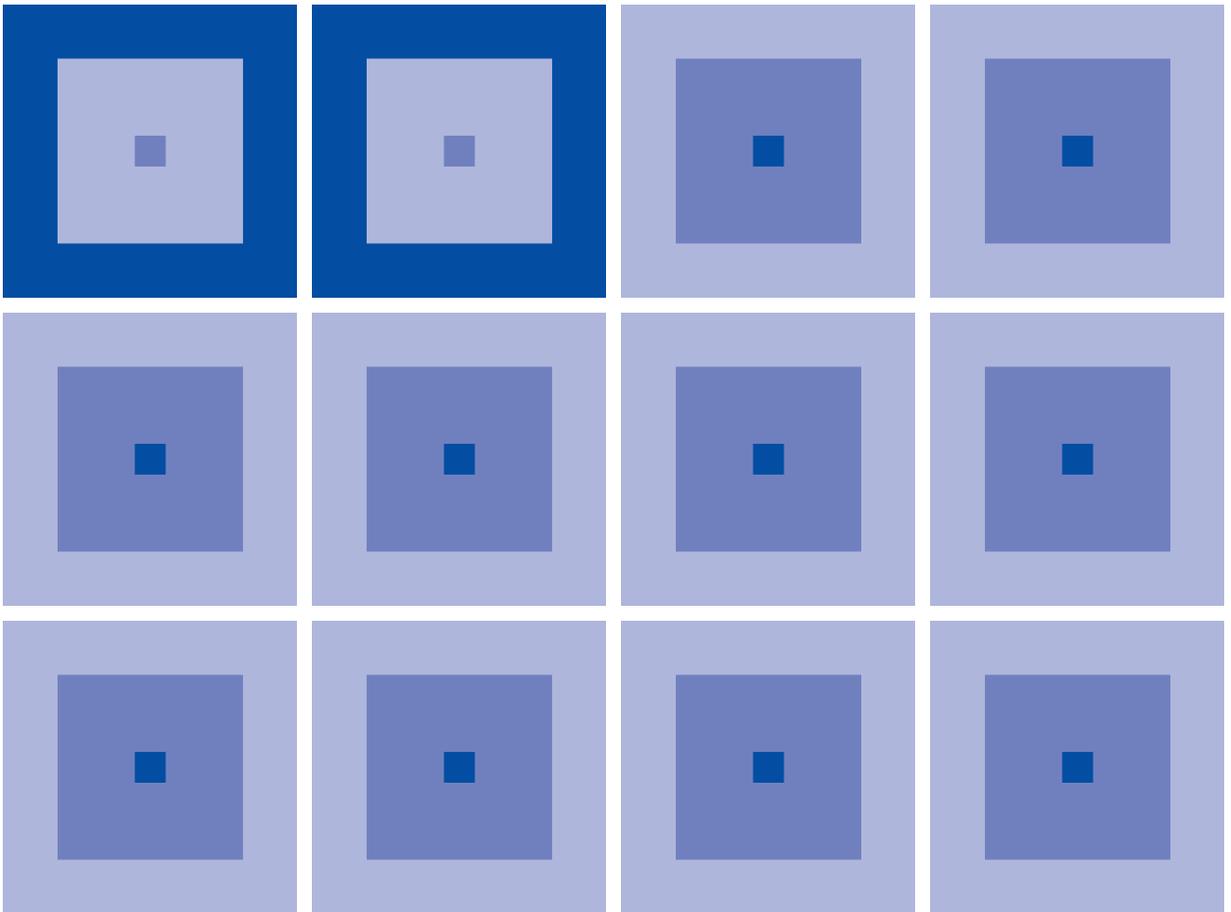


CMOS 4-BIT SINGLE CHIP MICROCOMPUTER
S5U1C63000P6 Manual
(S1C63 Family Peripheral Circuit Board)



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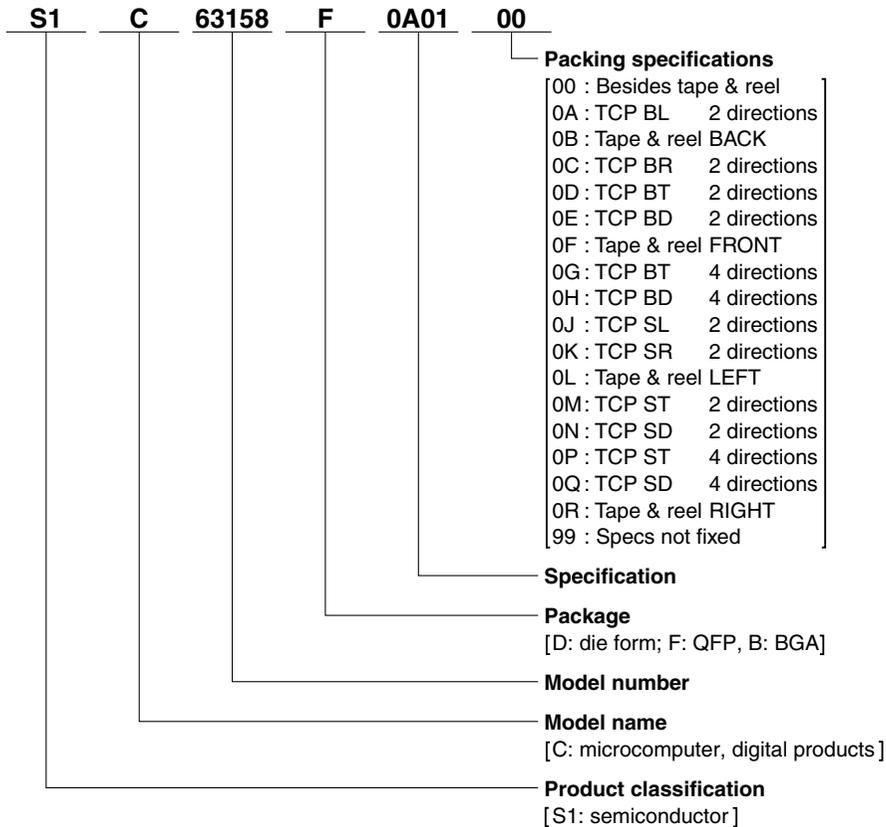
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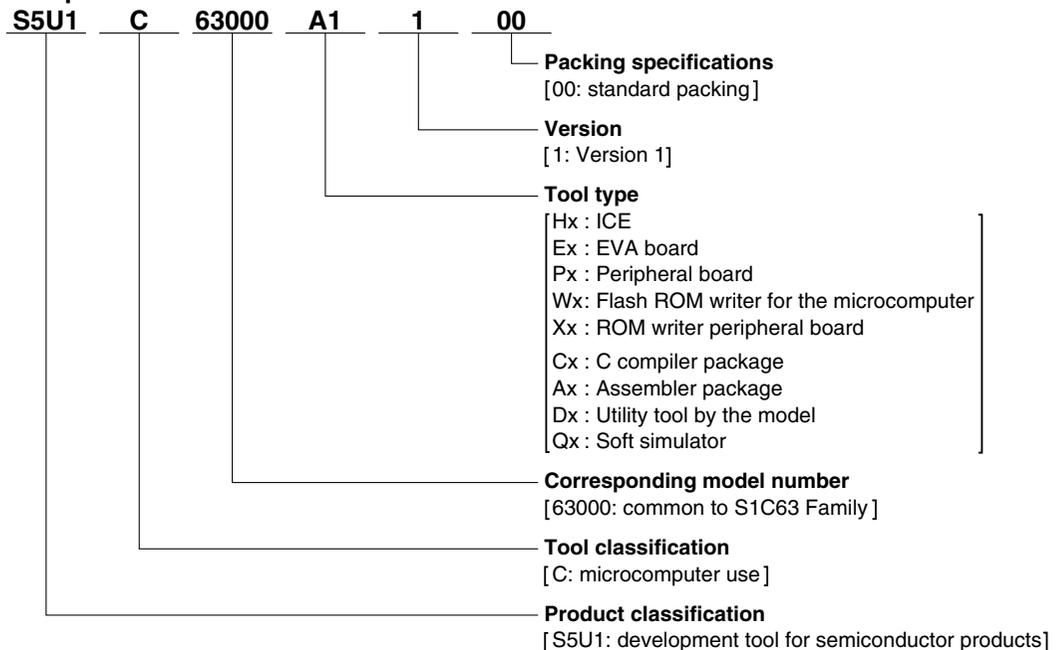
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S5U1C63000P6 Manual (S1C63 Family Peripheral Circuit Board)

This manual describes how to use the S1C63 Family Peripheral Circuit Board (S5U1C63000P6). This circuit board is provides emulation functions by installing in the ICE (S5U1C63000H2/H6), a debugging tool for the 4-bit Single Chip Microcomputer S1C63 Family.

This manual describes only the common specification of the S1C63 Family Peripheral Circuit Board (S5U1C63000P6), so refer to the “S1C63xxx Technical Manual (APPENDIX Peripheral Circuit Board for S1C63xxx)” for the model dependent specifications. For the details on the ICE functions and how to operate the debugger, refer to the separately prepared manuals.

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1 Introduction

1.1 Outline of S5U1C63000P6

The S5U1C63000P6 board provides all the peripheral circuits of S1C63 Family microcomputers other than the core CPU. By installing this board in the ICE (S5U1C63000H2/H6) you can use it to emulate each model in the S1C63 Family. This board contains a programmable gate array (FPGA) for supporting each model by downloading the circuit data from the host PC to the FPGA via the ICE.

1.2 Components of S5U1C63000P6

After unpacking your S5U1C63000P6 package, check to see that all of the following components are included.

- (1) S5U1C63000P6 main unit..... 1 board
- (2) I/O cable (80-pin/40-pin × 2 flat type)..... 1 pair
- (3) I/O cable (100-pin/50-pin × 2 flat type)..... 1 pair
- (4) Connector for connecting to target system (40 pins) 2 pieces
- (5) Connector for connecting to target system (50 pins) 2 pieces
- (6) Warranty card 1 card
- (7) User registration card 1 card
- (8) S5U1C63000P6 Manual (S1C63 Family Peripheral Circuit Board) 1 copy (this manual)

1.3 External View of S5U1C63000P6

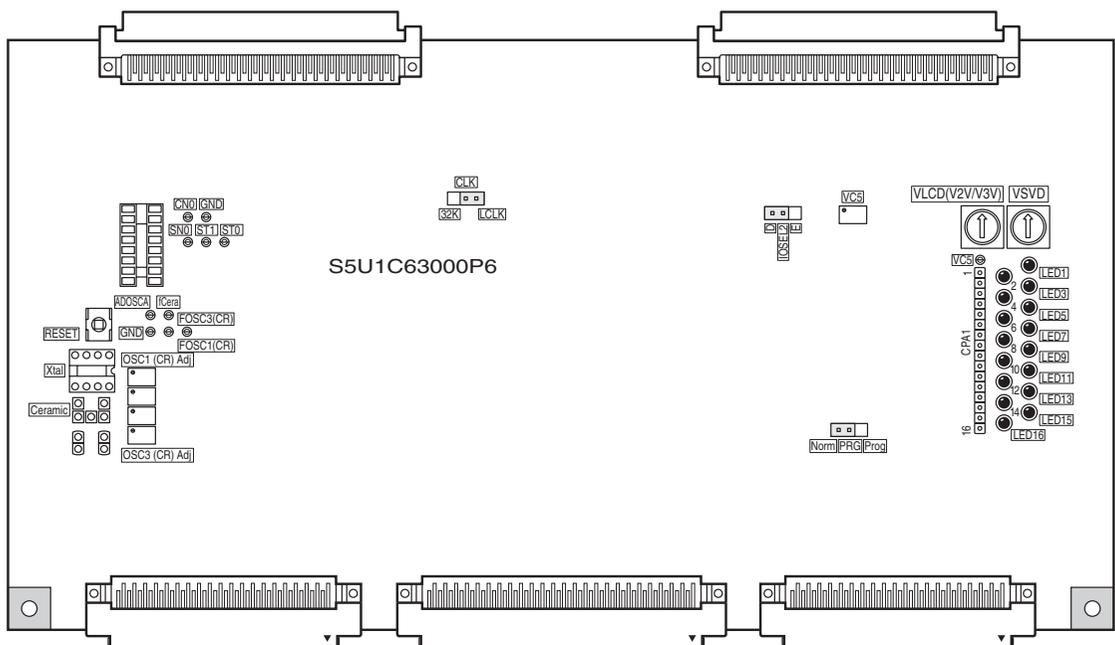


Figure 1.3.1 External View of S5U1C63000P6

2 Setting Up the S5U1C63000P6

2.1 Installing S5U1C63000P6 in ICE (S5U1C63000H2/H6)

- (1) Unfasten the screws located on the left and right sides of the front panel of the ICE (S5U1C63000H2/H6) by turning them counterclockwise, and then remove the front panel.
- (2) Insert the S5U1C63000P6 board into the ICE along its uppermost guide rails until the tip of the board touches the back of the ICE. If some other board is mounted on the uppermost guide rails, remove that board by using the jig supplied with the ICE before you insert the S5U1C63000P6 board (see Figure 2.1.3).
- (3) Once the S5U1C63000P6 board has been inserted almost fully into the ICE, secure it in position by using the jig supplied with the ICE (see Figure 2.1.2).
- (4) When the above is done, replace the front panel.

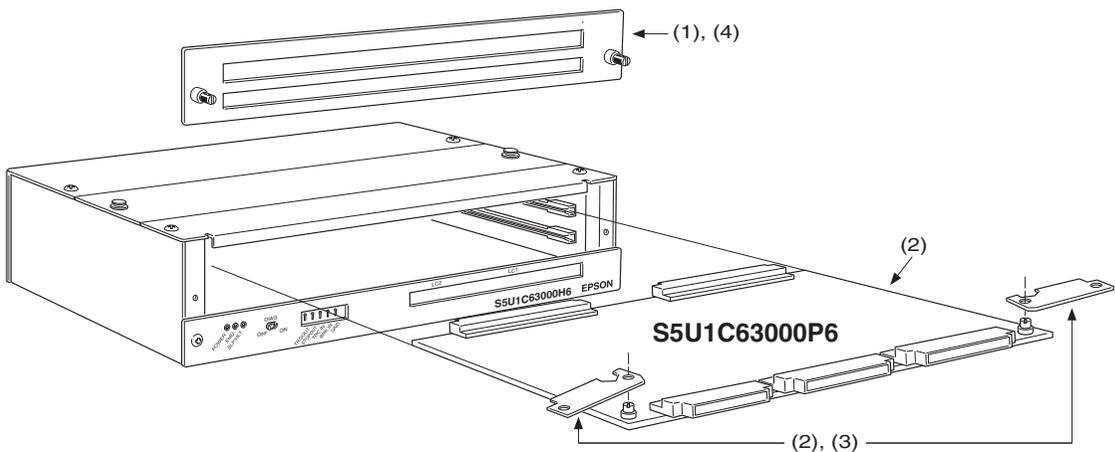


Figure 2.1.1 Installing the S5U1C63000P6 in the ICE (S5U1C63000H2/H6)

Installing the S5U1C63000P6 board

Set the jig included with the ICE into position as shown in Figure 2.1.2. Using this jig as a lever, push it toward the inside of the board evenly on the left and right sides. After confirming that the S5U1C63000P6 board has been firmly fitted into the internal slot of the ICE, remove the jig.

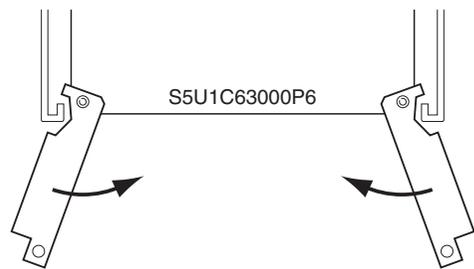


Figure 2.1.2 Installing S5U1C63000P6

Dismounting the S5U1C63000P6 board

Set the jig included with the ICE into position as shown in Figure 2.1.3. Using this jig as a lever, push it toward the outside of the board evenly on the left and right sides. After confirming that the S5U1C63000P6 board has been dismantled from the backboard connector, pull the S5U1C63000P6 board out of the ICE.

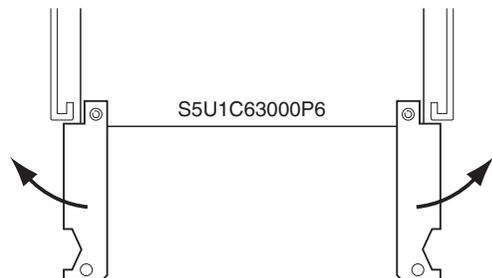


Figure 2.1.3 Dismounting S5U1C63000P6

2.2 Downloading Circuit Data through ICE (S5U1C63000H2/H6)

The S5U1C63000P6 board comes with the FPGA that contains factory inspection data, therefore the circuit data for the model to be used should be downloaded. The following explains the downloading procedure.

- (1) Remove the ICE top cover and then set the jumper switch “IOSEL2” on the S5U1C63000P6 board to the “E” position.
- (2) Connect the ICE to the host PC. Then turn the host PC and ICE on.
- (3) Invoke the debugger included in the assembler package (ver. 5 or later when the ICE is S5U1C63000H2, Ver. 9 or later when the ICE is S5U1C63000H6). For how to use the ICE and debugger, refer to the manuals supplied with the ICE and assembler package.
- (4) Download the circuit data file (-.mot) corresponding to the model by entering the following commands in the command window.
 - >XFER (erase all)
 - >XFWR <File name> (download the specified file)*
 - >XFCP <File name> (compares the specified file and downloaded data)

* The downloading takes about 15 minutes for the S5U1C63000H2 or 3 minutes for the S5U1C63000H6.
- (5) Terminate the debugger and then turn the ICE off.
- (6) Set the jumper switch “IOSEL2” on the S5U1C63000P6 board to the “D” position.
- (7) Turn the ICE on and invoke the debugger again. Debugger can be started here.

Caution!

Make sure that the circuit data to be downloaded is the correct file for the S5U1C63000P6 before it can be downloaded.

Note that the circuit data for the S5U1C63000P1 is not compatible with the S5U1C63000P6.

3 Product Specifications

The specifications of the S5U1C63000P6 are listed below.

S5U1C63000P6

Dimension	254 mm (wide) × 144.8 mm (depth) × 16 mm (height) (including screws)
Weight	Approx. 250 g
Power supply	DC 5 V ±5%, less than 1 A (except inrush current at power-on)

I/O connection cable (80 pins)

S5U1C63000P6 connector	8830E-080-170L-F (KEL)	
Cable connector (80 pins)	8822E-080-171-F (KEL)	
Cable connector (40 pins)	7940-6500SC (3M)	1 pair
Cable	40-pin flat cable	1 pair
Interface	CMOS interface (3.3 V)	
Length	Approx. 40 cm	

I/O connection cable (100 pins)

S5U1C63000P6 connector	8830E-100-170L-F (KEL)	
Cable connector (100 pins)	8822E-100-171-F (KEL)	
Cable connector (50 pins)	7950-6500SC (3M)	1 pair
Cable	50-pin flat cable	1 pair
Interface	CMOS interface (3.3 V)	
Length	Approx. 40 cm	

Accessories

40-pin connector for connecting to target system (40 pins)	3432-6002LCPL (3M) × 2
50-pin connector for connecting to target system (50 pins)	3433-6002LCPL (3M) × 2



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