

S1C31 Manual errata

ITEM: Flash Memory Pin																													
Object manuals	Document codes	Items	Pages																										
S1C31D01 Technical Manual	413520400	1.3.3 Pin Descriptions 4.3.1 Flash Memory Pin 25 Basic External Connection Diagram	1-9 4-2 25-1																										
<p>(Error)</p> <p>1.3.3 Pin Descriptions</p> <p style="text-align: center;">Table 1.3.3.1 Pin Description</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 20px;"> <thead> <tr> <th style="width: 10%;">P16</th> <th style="width: 10%;">P16</th> <th style="width: 10%;">I/O</th> <th style="width: 10%;">Hi-Z</th> <th style="width: 10%;">-</th> <th style="width: 50%;">I/O port</th> </tr> </thead> <tbody> <tr> <td></td> <td>EXCL11</td> <td>I</td> <td></td> <td></td> <td>16-bit PWM timer Ch.1 event counter input 1</td> </tr> <tr> <td></td> <td>UPMUX</td> <td>I/O</td> <td></td> <td></td> <td>User-selected I/O (universal port multiplexer)</td> </tr> </tbody> </table> <p>4.3.1 Flash Memory Pin</p> <p style="text-align: center;">Table 4.3.1.1 Flash Memory Pin</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 20px;"> <thead> <tr> <th style="width: 20%;">Pin name</th> <th style="width: 10%;">I/O</th> <th style="width: 10%;">Initial status</th> <th style="width: 60%;">Function</th> </tr> </thead> <tbody> <tr> <td>VPP</td> <td>P</td> <td>-</td> <td>Flash programming power supply</td> </tr> </tbody> </table> <p>For the V_{PP} voltage, refer to “Recommended Operating Conditions, Flash programming voltage V_{PP}” in the “Electrical Characteristics” chapter.</p> <p>Note: Always leave the V_{PP} pin open except when programming the Flash memory.</p> <p>25 Basic External Connection Diagram</p> <div style="text-align: center; margin: 20px 0;"> </div>				P16	P16	I/O	Hi-Z	-	I/O port		EXCL11	I			16-bit PWM timer Ch.1 event counter input 1		UPMUX	I/O			User-selected I/O (universal port multiplexer)	Pin name	I/O	Initial status	Function	VPP	P	-	Flash programming power supply
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4.3.1 Flash Memory Pin

Table 4.3.1.1 Flash Memory Pin

Pin name	I/O	Initial status	Function
V _{PP}	P	-	Flash programming power supply
(ENV _{PP})	O or Hi-Z	-	Flash programming control signal output

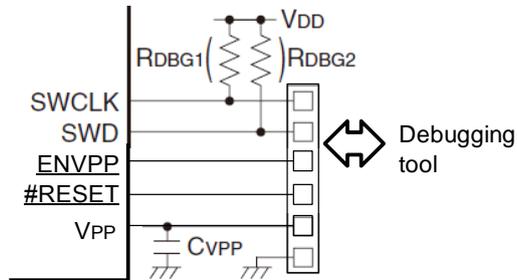
For the V_{PP} voltage, refer to “Recommended Operating Conditions, Flash programming voltage V_{PP}” in the “Electrical Characteristics” chapter.

Note: Always leave the V_{PP} pin open except when programming the Flash memory.

The ENV_{PP} pin outputs a control signal to the Bridge Board(S5U1C31001L) in flash programming.

Consider the influence of this signal on external circuit although it can be used as a normal pin.

25 Basic External Connection Diagram



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ITEM Flash Programming																				
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		Appendix C Mounting Precautions	AP-C-1																	
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4.3.3 Flash Programming The Flash memory supports on-board programming, so it can be programmed using a flash loader. The VPP voltage can be supplied from either an external power supply or the internal voltage booster. Choose the flash loader according to the VPP power supply to be used. Notes: · When the VPP voltage is supplied externally, 2.4 V or more VDD voltage is required. · When the VPP voltage is generated internally, 2.7 V or more VDD voltage is required.																				
24.2 Recommended Operating Conditions																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Item</th> <th style="width: 10%;">Symbol</th> <th style="width: 30%;">Condition</th> <th style="width: 5%;">Min.</th> <th style="width: 5%;">Typ.</th> <th style="width: 5%;">Max.</th> <th style="width: 5%;">Unit</th> </tr> </thead> <tbody> <tr> <td>Capacitor between VSS and VPP</td> <td>CVPP</td> <td>*5</td> <td style="text-align: center;">-</td> <td style="text-align: center;">0.1</td> <td style="text-align: center;">-</td> <td style="text-align: center;">μF</td> </tr> </tbody> </table>							Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Capacitor between VSS and VPP	CVPP	*5	-	0.1	-	μF
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Appendix C Mounting Precautions VPP pin If fluctuations in the Flash programming voltage VPP is large, connect a capacitor CVPP between the VSS and VPP pins to suppress fluctuations within VPP ± 1 V. The CVPP should be placed as close to the VPP pin as possible and use a sufficiently thick wiring pattern that allows current of several tens of mA to flow.																				
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4.3.3 Flash Programming The Flash memory supports on-board programming, so it can be programmed using a flash loader. The VPP voltage can be supplied from either an external power supply or the internal voltage booster. <u>The VPP voltage can also be generated by the internal power supply for generating the Flash programming voltage. Be sure to connect a capacitor CVPP between the VSS and VPP pins for stabilizing the voltage when the VPP voltage is supplied externally or for generating the voltage when the internal power supply</u>																				

is used.

The VPP pin must be left open except when programming the Flash memory. However, it is not necessary to disconnect the wire when using "Bridge Board (S5U1C31001L)" to supply the VPP voltage, as Bridge Board controls the power supply so that it will be supplied during Flash programming only.

- Notes:
- When the VPP voltage is supplied externally, 2.4 V or more VDD voltage is required.
 - When the VPP voltage is generated internally, 2.7 V or more VDD voltage is required
 - Be sure to avoid using the VPP pin output for driving external circuits when the VPP voltage is generated internally.

24.2 Recommended Operating Conditions

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Capacitor between VSS and VPP	CVPP	*5	-	0.1	-	μF

~~*5 CVPP should be connected only when the VPP voltage is not stable.~~

Appendix C Mounting Precautions

VPP pin

~~If fluctuations in the Flash programming voltage VPP is large,~~ Connect a capacitor CVPP between the VSS and VPP pins to suppress fluctuations within $V_{PP} \pm 1$ V. The CVPP should be placed as close to the VPP pin as possible and use a sufficiently thick wiring pattern that allows current of several tens of mA to flow.