

ANI003I_I

ISPI582/83 Control Pipe

Semiconductors

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Revision History:

Version	Date	Descriptions	Author
1.0	July 2003	Initial version.	Albert Goh

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1. ISPI581 and ISPI582/83 Control Function Register

Table I-1: ISPI581 control function register

Table 17: Control Function register: bit allocation

Bit	7	6	5	4	3	2	1	0
Symbol	reserved			CLBUF	VENDP	reserved	STATUS ^[1]	STALL
Reset	-	-	-	0	0	-	0	0
Bus reset	-	-	-	0	0	-	0	0
Access	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W

Table I-2: ISPI582/83 control function register

Table 19: Control Function register: bit allocation

Bit	7	6	5	4	3	2	1	0
Symbol	reserved			CLBUF	VENDP	DSEN	STATUS ^[1]	STALL
Reset	-	-	-	0	0	0	0	0
Bus reset	-	-	-	0	0	0	0	0
Access	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W

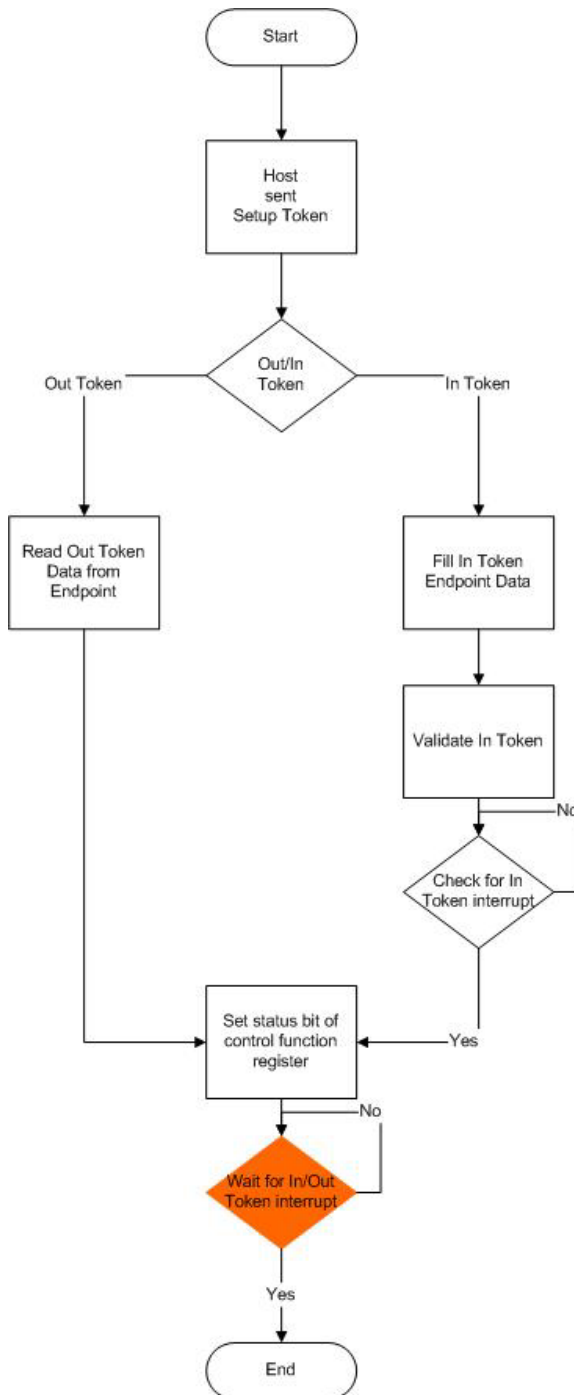
The ISPI582/83 control function bit 2 has been assigned to DSEN, is the control data stage enable bit, and is used in the control flow. DSEN has to be set to logic '1' whenever a Control Out token or Control In token is received from the host. When the Control Out token is received, the Out token data will be valid only once the DSEN is set, or else the ISPI582/83 will perform a NAK on the out token. In the case of the Control In token, it will be sent to the host only after both the DSEN bit is set *and* once the data has been filled into the control in endpoint with the endpoint validated.

This is to have a better flow of the control pipe.

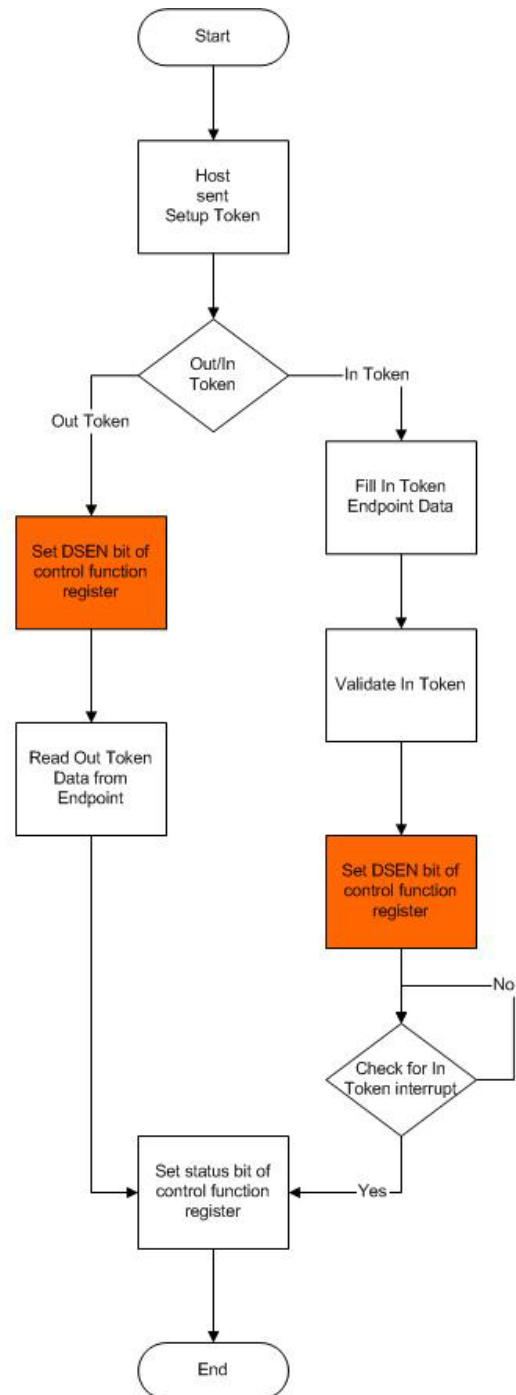
The status bit has also been modified to enhance the control pipe. When the status bit for the In or Out token is set, no interrupt will be generated.

2. ISPI581 and ISPI582/83 Control Pipe Flowcharts

Control pipe flowchart for ISPI581



Control pipe flowchart for ISPI582/83



The left flow chart shows how the control pipe is handled in the ISPI581. The right flow chart shows how the control pipe is handled in the ISPI582/83—compared to in ISPI581, additional steps are required and waiting for the status stage endpoint interrupt is removed. The DSEN bit in the control function register was introduced to get a better control pipe.

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