

Microsemi Corporation: CN18010

November 14, 2018

Customer Notification No: CN18010

Change Classification: Minor

Subject

SmartFusion (A2F) datasheet changes to be posted on Microsemi website.

Description

This change notification affects all Commercial/Industrial Temperature grade SmartFusion devices. Minor updates to the SmartFusion datasheet have occurred.

Description of Change

SPI timing characteristics for Setup/Hold (sp6/sp7/sp8/sp9) on Table 2-100 SPI Characteristics will be updated to:

Symbol	Description	Value	Unit
sp6	Data from master (SPI_x_DO) setup time ²	(SPI_x_CLK_period/2) – 4.0	ns
sp7	Data from master (SPI_x_DO) hold time ²	(SPI_x_CLK_period/2) – 4.0	ns
sp8	SPI_x_DI setup time ²	10.4 (load of 20 pF)	ns
		11.2 (load of 35 pF)	ns
sp9	SPI_x_DI hold time ²	2.5	ns

Reason for change: The existing table, as follows, specifies values at 1 PCLK. The revised table, as shown previously, specifies absolute timing in nanoseconds, which is more accurate.

Table 2-100 • SPI Characteristics
Commercial Case Conditions: $T_J = 85^{\circ}\text{C}$, $V_{DD} = 1.425\text{ V}$, –1 Speed Grade (continued)

Symbol	Description and Condition	A2F060	A2F200	A2F500	Unit
sp6	Data from master (SPI_x_DO) setup time ²	1	1	1	pclk cycles
sp7	Data from master (SPI_x_DO) hold time ²	1	1	1	pclk cycles
sp8	SPI_x_DI setup time ²	1	1	1	pclk cycles
sp9	SPI_x_DI hold time ²	1	1	1	pclk cycles

Notes:

1. These values are provided for a load of 35 pF. For board design considerations and detailed output buffer resistances, use the corresponding IBIS models located on the Microsemi SoC Products Group website:
http://www.microsemi.com/index.php?option=com_microsemi&Itemid=489&lang=en&view=salescontact.
2. For allowable pclk configurations, refer to the Serial Peripheral Interface Controller section in the SmartFusion Microcontroller Subsystem User's Guide.

Application Impact

None. This is just a clarification of SPI timing.

Action Required

Customers who were unable to meet timing closure at the board level using the prior SPI timing specifications should attempt to close timing using the new specifications.

Qualification Data

No design or process changes to the device have occurred that would impact functionality or performance requiring qualification data.

Affected Parts List

A2F200M3F-1CS288	A2F200M3F-CS288	A2F500M3G-1CS288	A2F500M3G-CS288
A2F200M3F-1CS288I	A2F200M3F-CS288I	A2F500M3G-1CS288I	A2F500M3G-CS288I
A2F200M3F-1CSG288	A2F200M3F-CSG288	A2F500M3G-1CSG288	A2F500M3G-CSG288
A2F200M3F-1CSG288I	A2F200M3F-CSG288I	A2F500M3G-1CSG288I	A2F500M3G-CSG288I
A2F200M3F-1FG256	A2F200M3F-FG256	A2F500M3G-1FG256	A2F500M3G-FG256
A2F200M3F-1FG256I	A2F200M3F-FG256I	A2F500M3G-1FG256I	A2F500M3G-FG256I
A2F200M3F-1FG484	A2F200M3F-FG484	A2F500M3G-1FG484	A2F500M3G-FG484
A2F200M3F-1FG484I	A2F200M3F-FG484I	A2F500M3G-1FG484I	A2F500M3G-FG484I
A2F200M3F-1FGG256	A2F200M3F-FGG256	A2F500M3G-1FGG256	A2F500M3G-FGG256
A2F200M3F-1FGG256I	A2F200M3F-FGG256I	A2F500M3G-1FGG256I	A2F500M3G-FGG256I
A2F200M3F-1FGG484	A2F200M3F-FGG484	A2F500M3G-1FGG484	A2F500M3G-FGG484
A2F200M3F-1FGG484I	A2F200M3F-FGG484I	A2F500M3G-1FGG484I	A2F500M3G-FGG484I
A2F200M3F-1PQ208	A2F200M3F-PQ208	A2F500M3G-1PQ208	A2F500M3G-PQ208
A2F200M3F-1PQ208I	A2F200M3F-PQ208I	A2F500M3G-1PQ208I	A2F500M3G-PQ208I
A2F200M3F-1PQG208	A2F200M3F-PQG208	A2F500M3G-1PQG208	A2F500M3G-PQG208
A2F200M3F-1PQG208I	A2F200M3F-PQG208I	A2F500M3G-1PQG208I	A2F500M3G-PQG208I

If you have any questions, please contact Microsemi's SoC technical support at soc_tech@microsemi.com.

Regards,
Microsemi Corporation

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Microsemi Headquarters

One Enterprise, Aliso Viejo,
CA 92656 USA

Within the USA: +1 (800) 713-4113

Outside the USA: +1 (949) 380-6100

Sales: +1 (949) 380-6136

Fax: +1 (949) 215-4996

Email: sales.support@microsemi.com

www.microsemi.com

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