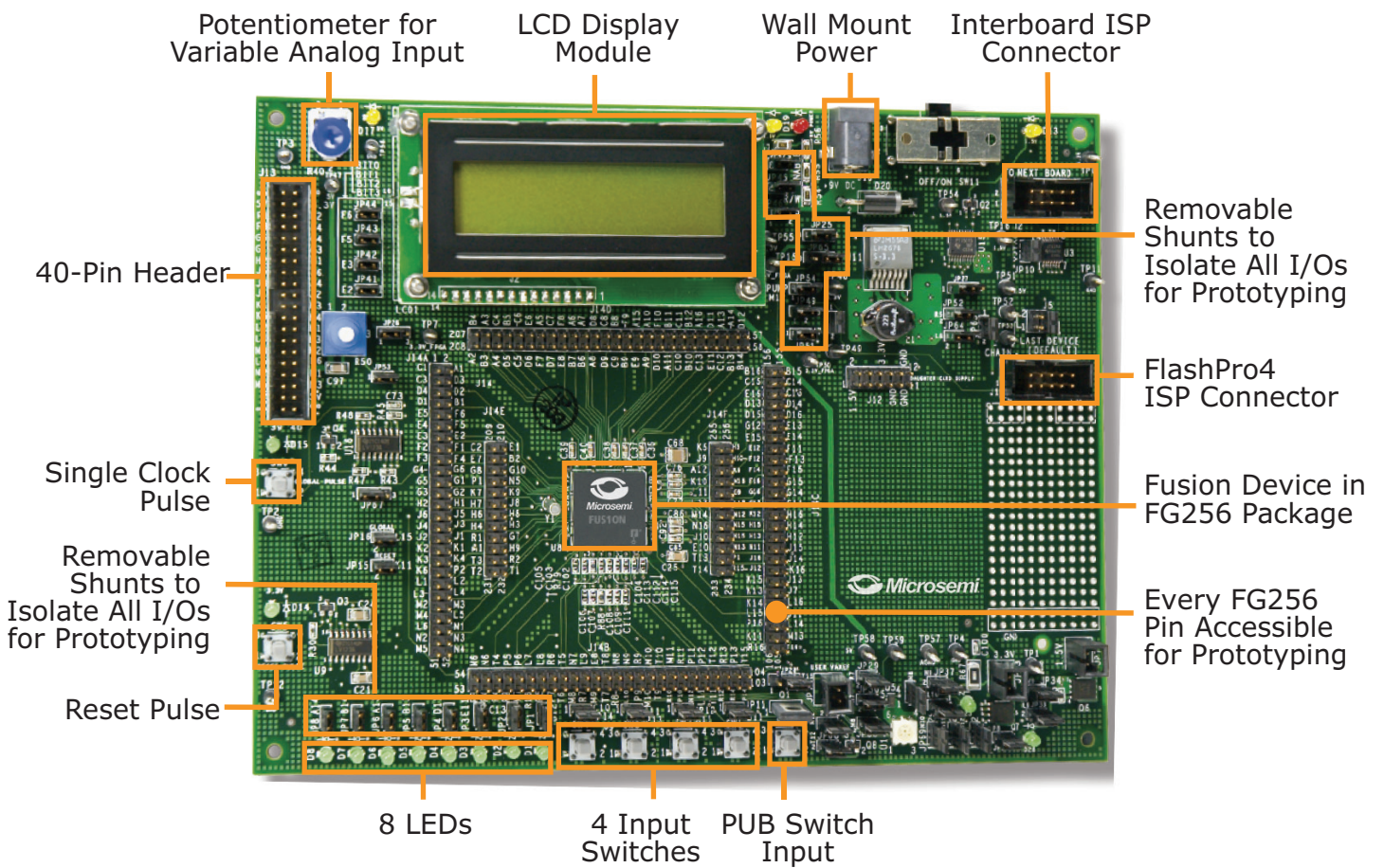


Fusion Starter Kit Quickstart Card

Kit Contents—AFS-EVAL-KIT

Quantity	Description
1	Evaluation board with an AFS600-FG256 Fusion device
1	FlashPro4 programmer
1	9 V power supply with international adapters
1	Quickstart card



Overview

The Fusion® Starter Kit contains basic requirements for fully experimenting with SoC Products Groups Fusion Analog mixed signal FPGA capabilities. The starter kit includes all I/Os connected to headers that can be connected to an external system and isolated from other components on the board.

The Fusion architecture provides access to a one-chip flash FPGA solution containing both analog and digital components, including a built-in flash drive.

Jumper Settings

There are several special jumpers and pins on the starter kit that need attention. Select the appropriate jumper settings for your design. Function and location of each jumper is available in the Fusion Starter Kit User's Guide. See the [Documentation Resources section](#) for more information.

Before powering up the board for running demo design, make sure the jumpers are in the following positions.

Jumper	Development Kit Function	Setting	Voltage
JP25	Selects value of VMV1	2–3	3.3 V
JP26	Selects value of VMV0	2–3	3.3 V
JP27	VJTAG voltage selection	2–3	3.3 V
JP28	Determines whether 1.5 V is internally generated or externally generated	1–2	Internal 1.5 V regulator

Running the Demo Design

To test the board, you can program the board with the demo design. The programming file for the demo can be downloaded from the Fusion Starter Kit Quickstart Card on the Fusion Starter Kit page. See the [Documentation Resources section](#) for more information.

The demo design configures the ADC input channels to sample the voltage and current provided to different loads, and the temperature from an on-board temperature sensor. Single-color LEDs and LCD are used to demonstrate the voltage levels, and a tricolor LED is used to indicate the different temperature levels with different colors.

After successful programming, the LCD shows “FUSION” after board power-up. The following table lists the different functionalities of the potentiometer, LEDs, and switches on the Fusion evaluation board for the demo design.

On-Board Devices and Functions

Device	Function
Potentiometer R50	Turning the potentiometer drives AV0 with analog voltage 0 V–5 V.
LED D5	When AV0 > 1.5 V, D5 lights up.
LED D6	When AV0 > 2.5 V, D6 lights up.
LED D7	When AV0 > 3.3 V, D7 lights up.
LED D8	When AV0 > 4.5 V, D8 lights up.
Switch SW7	When depressed, the PUB pad is grounded to power up the voltage regulator.
Switch SW6	When depressed, generates a '1' to reset the 2-bit counter.
Switch SW5	When depressed, generates a clock pulse to the 2-bit counter.
Switch SW4	When depressed, shows the AFS600 core current on the LCD.
Switch SW3	When depressed, shows the AFS600 core voltage on the LCD.
Switch SW2	When depressed, shows the temperature sensed by the temperature sensor on the LCD.
Switch SW1	When depressed, shows the potentiometer output voltage on the LCD.
Tricolor LED U1	When temperature AT > 20 °C, the LED lights up blue.
Tricolor LED U1	When temperature AT > 30 °C, the LED lights up green.
Tricolor LED U1	When temperature AT > 40 °C, the LED lights up red.

Software and Licensing

Libero® SoC Design Suite offers high productivity with its comprehensive, easy-to-learn, easy-to-adopt development tools for designing with Microsemi's low power Flash FPGAs and SoC. The suite integrates industry standard Synopsys Synplify Pro® synthesis and Mentor Graphics ModelSim® simulation with best-in-class constraints management and debug capabilities.

Download the latest Libero SoC release

www.microsemi.com/products/fpga-soc/design-resources/design-software/libero-soc#downloads

Generate a Libero Silver license for your kit

www.microsemi.com/products/fpga-soc/design-resources/licensing

Documentation Resources

For more information about the Fusion Starter Kit, including user's guides, tutorials, and design examples, see the documentation at www.microsemi.com/products/fpga-soc/design-resources/dev-kits/fusion/fusion-starter-kit#documents.

Support

Technical support is available online at www.microsemi.com/soc/support and by email at soc_tech@microsemi.com

Microsemi sales offices, including representatives and distributors, are located worldwide. To find your local representative, go to <http://www.microsemi.com/salescontacts>



Microsemi Corporate Headquarters
One Enterprise, Aliso Viejo, CA 92656 USA
Within the USA: +1 (800) 713-4113
Outside the USA: +1 (949) 380-6100
Fax: +1 (949) 215-4996
Email: sales.support@microsemi.com
www.microsemi.com

©2012–2017 Microsemi Corporation. All rights reserved. Microsemi and the Microsemi logo are registered trademarks of Microsemi Corporation. All other trademarks and service marks are the property

Microsemi Corporation (Nasdaq: MSCC) offers a comprehensive portfolio of semiconductor and system solutions for aerospace & defense, communications, data center and industrial markets. Products include high-performance and radiation-hardened analog mixed-signal integrated circuits, FPGAs, SoCs and ASICs; power management products; timing and synchronization devices and precise time solutions, setting the world's standard for time; voice processing devices; RF solutions; discrete components; enterprise storage and communication solutions, security technologies and scalable anti-tamper products; Ethernet solutions; Power-over-Ethernet ICs and midspans; as well as custom design capabilities and services. Microsemi is headquartered in Aliso Viejo, California and has approximately 4,800 employees globally. Learn more at www.microsemi.com.

Microsemi makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does Microsemi assume any liability whatsoever arising out of the application or use of any product or circuit. The products sold hereunder and any other products sold by Microsemi have been subject to limited testing and should not be used in conjunction with mission-critical equipment or applications. Any performance specifications are believed to be reliable but are not verified, and Buyer must conduct and complete all performance and other testing of the products, alone and together with, or installed in, any end-products. Buyer shall not rely on any data and performance specifications or parameters provided by Microsemi. It is the Buyer's responsibility to independently determine suitability of any products and to test and verify the same. The information provided by Microsemi hereunder is provided "as is, where is" and with all faults, and the entire risk associated with such information is entirely with the Buyer. Microsemi does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other IP rights, whether with regard to such information itself or anything described by such information. Information provided in this document is proprietary to Microsemi, and Microsemi reserves the right to make any changes to the information in this document or to any products and services at any time without notice.