

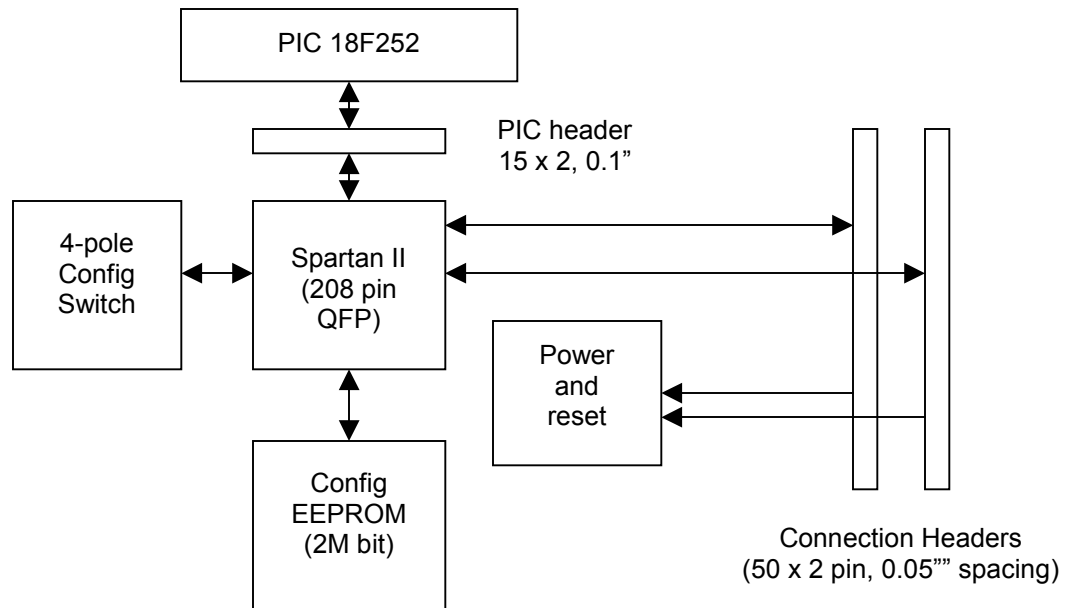
M0045 FPGA Development Board

General

The M0045 is a versatile FPGA Development Board that allows an engineer to quickly test FPGA implementations.

The M0045 is based on the high-density Xilinx Spartan II FPGA, and includes the associated FPGA programming memory, full power management circuitry, and a Microchip FLASH-based 18F252 microcontroller with in-system programming and debugging (the 18F252 is not required to work with the FPGA). The 18F252 is directly connected to the FPGA, with each pin accessible on header.

Two high-density connectors provide access to 100 of the FPGA's I/O pins. A block diagram of the board is shown below.





Electrical Specifications

Parameter	Condition	Specification			Units
		Min	Typ	Max	
GENERAL					
Power supply voltage	20 deg C	5.0		12.0	V
Supply current	20 deg C; no current draw on I/O pins		50		mA
Operating Temperature	Ta	0		70	C
FPGA					
Outputs	Refer to Spartan II Datasheet				
Inputs	Refer to Spartan II Datasheet				
18F252					
All functionality	Refer to Microchip 18F252 Datasheet				

Certifications

The unit carries no FCC or Industry Canada certifications. It is intended for use in a hobby or lab environment.

Physical Dimensions

PCB outline approximately 4" x 6".

Mounting holes in two corners of the PCB, each approximately 0.125" in diameter.



Connectors and Switches

The following table provides an overview of the connectors available on the M0045. For specific pin assignments, please refer to the schematic diagram (provided in PDF format a board purchase).

Identifier	Physical Description	Function
J1	6 x 1, 0.1" header (vertical)	JTAG port directly connected to configuration EEPROM for programming of FPGA configuration data.
J3, J4	50 x 2, 0.05" headers (vertical)	Board power and ground, and I/O connections to FPGA (50 pins per connector directly connected to FPGA I/O pins)
JP1	6 x 1, 0.1" header (vertical)	Directly connected to the Microchip for in-circuit programming and debugging
JR2	15 x 2, 0.1" header (vertical)	FPGA / Microchip interface points
SW1	4-position DIP switch	Connected to the FPGA

Development Tools

The following development tools are suggested for working with the M0045. Please contact the respective vendor's for details.

1. Spartan II: Xilinx Webpack and parallel port programming cable.
2. 18F252: Microchip MPLAB IDE and PICSTART Plus programmer.

Price

The M0045 costs \$450 CAD for orders of 1 to 9 boards. Please contact Microlynx for pricing in quantities of 10 or more boards.