Connect Tech Inc.

FreeForm/104

FreeForm/104 is a PC/104 based card that features a reconfigurable FPGA for digital I/O and control applications.
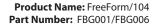
Based on Xilinx's Spartan-3E, Connect Tech's FreeForm/104 offers off-the-shelf flexibility. The FPGA stored on-board in flash memory allows users to accomodate design changes at run-time, which is ideal for high speed and compute-intensive reconfigurable applications.

Customized FPGA configurations can be developed easily by the user with Xilinx's free ISE Webpack software at http://www.xilinx.com/ise/logic_design_prod/webpack.htm or through Connect Tech's engineering services.

The versatility and high speed processing core of FreeForm/104 makes it ideal for applications including DSP, software defined radio, aerospace, defense systems, computer hardware emulation, production or laboratory testing and industrial process monitoring and control.

Product Name: FreeForm/104
Part Number: FBG001/FBG006

FEATURES

✓ Customizable PC/104 board based on the Xilinx Spartan-3E

✓ FPGA configurable through JTAG or SPI flash (4Mb)

✓ External 5V power connection for stand alone usage

✓ Four user configurable LEDS and on-board reset switch

✓ Eight position rotary switch connected to FPGA

Specifications

Programmable FPGA	Xilinx Spartan-3E, 500,000 gates, 360K RAM ***Standard FPGA Configurations:*** Digital I/O: 96 digital I/O (8255 compatible), 6 x 8254 counter/timers ***Digital I/O Opto-22:*** 48 Opto-22 (8255 compatible, 6 x 8254 counter/timers
Input Clock	66 MHz, internally scaleable
FPGA Code Storage	4 Mbit SPI Flash
Connectors	***2 x 50 pin header:*** 48 regrogammable 5V buffered I/O +/- 24mA drive current, each connector has 5V power and a ground pin ***1 x 26 pin header:*** 6 bi-directional pins, 12 input pins, 6 ground pins, unbuffered 5V TTL ***PC/104 header:*** fully bi-directional, configurable as a master or a slave, 8 bit I/O, 12 address bits, all IRQ's are connected, DMA's 0-3
Programmable I/O	96 high current TTL/CMOS (48 per 50 pin connector), 6 TTL (26 pin connnector)
Fixed I/O	12 TTL inputs (26 pin connector)
Interrupts	All PC/104 interrupts are connected to the FPGA
Temperature	***Commercial Model:*** 0°C to 70°C (32°F to 158°F) ***Industrial Model:*** -40°C to 85°C (-40°F to 185°F) ***Humidity:*** 95% non-condensing ***Storage:*** -65°C to 150 °C
Power Requirements	+5VDC 0.75 W (0.150A@5V) average with standard design 2.75 W (0.550A@5V) maximum with I/O transfers at 10 Mbps Current requirements are design dependant
Dimensions	***Length:*** 9.5885 cm/3.775" ***Width:*** 9.017 cm/3.55"
Weight	78 grams
Bus	PC/104 compatible or stand alone
System Requirements	Varies by configuration
Warranty and Support	Lifetime warranty and free technical support

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