

Key Features

- 1Gb DDR3 Memory (24 bit)
- Dual Channel Gigabit Ethernet
- 16 bits Analog-to-Digital Converter
- 148 User GPIO Pins
- 512 Mbit High Speed Serial Flash
- ADC & DAC Ports
- Expansion Ports & Modules

Applications

- Motor Control
- High-speed Communication
- Signal Processing
- Data Acquisition
- Image Sensor Processing
- LCD/OLED Video Drivers
- Expansion Ports

MAX10-SOM-50 Module

The Max10 System on Module (SOM) 50 module utilizes Altera revolutionary non-volatile MAX10 FPGA with advanced features such as:

Dual configuration flash —A single, on-die flash memory supports dual configuration, for true fail-safe upgrades with thousands of possible reprogram cycles.

Analog blocks —Integrated analog blocks with ADCs and temperature sensor provide lower latency and reduced board space with more flexible sample-sequencing.

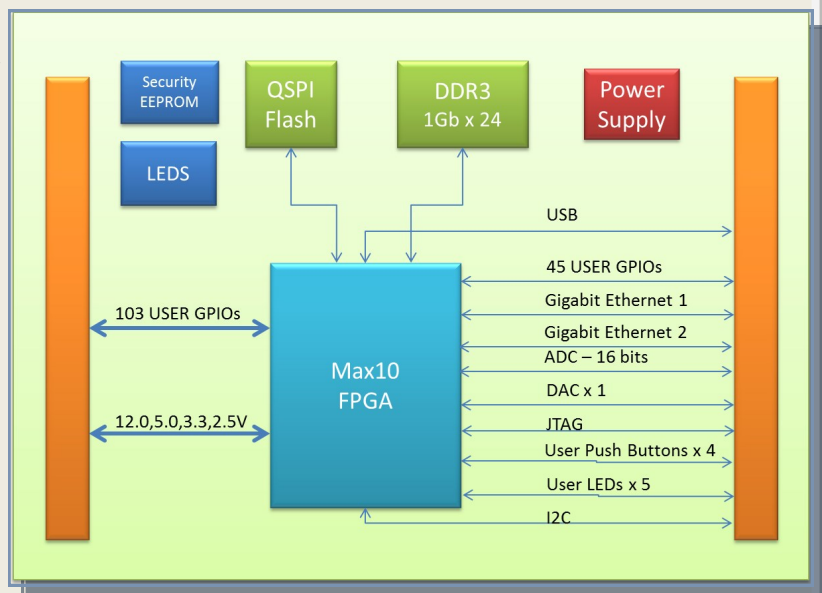
Instant on —MAX 10 FPGAs can be the first usable device on a system board to control bring-up of other components such as high density FPGAs, ASICs, ASSPs, and processors.

Nios® II soft core embedded processor

MAX 10 FPGAs support the integration of Altera's soft core Nios II embedded processors, providing embedded developers a single-chip, fully configurable, instant-on processor subsystem.

DSP blocks — As the first non-volatile FPGA with DSP, MAX 10 FPGAs are ideal for high-performance, high-precision applications using integrated 18x18 multipliers.

[Click Here for NIOS II IP Reference](#)
[Click here for info on the MAX10 FPGA](#)



Contact Information

Telephone

443-224-8955 / 240-447-8803

Email

sales@mradigital.com

Web

www.mradigital.com

Expansion Modules

Designed with scalability in mind, the MAX10-SOM-50 allows designers to develop sophisticated systems using a modular approach. MRA Digital has created various stackable modules that enables designers to extract the full power and capabilities of the MAX10 device. The modules include Dual Gigabit Ethernet, Imaging Sensors, Motor Controllers, LCD/Video Interface just to name a few. In addition the modules are designed to be connected in any order or configuration to meet your project application needs and requirements.

Designers can design their own modules using MRA Digital reference design documentation, or utilize MRA Digital design services in which MRA Digital will design, fabricate and test custom modules as per customer request.

FPGA Cores & Drivers

In addition to custom expansion modules, MRA Digital has an extensive library of FPGA Cores that can be leveraged shorten the development time; and therefore, reduce overall development risk and cost. Some of our cores include:

- Image Processing
- I2C
- HDMI TX
- HDMI RX
- MIPI TX
- MIPI RX
- Frame Buffer, Reader & Delay
- Image Sensor Pipeline
- eMagin WUXGA OLED Driver
- eMagin SXGA OLED Driver
- eMagin VGA OLED Driver
- eMagin SVGA OLED Driver
- Bt656-to-RGB Convertor
- Frame Rate Convertor
- And much more [contact us](#)

Technical Specifications		Design Support	
Form Factor	63.5 x 66.04 mm	SOM 3D Models	Available for Download
Connectors	2 x 180 pin SAMTEC QSH-090		
FPGA	Altera MAX10 (50K LE)	SOM Connector Pin-out	Available for Download
Memory	<ul style="list-style-type: none">• 1 Gbit 24bit wide DDR3	Connector Signal Trace Length	Available for Download
User I/O	<ul style="list-style-type: none">• 148 FPGA I/O		
Interfaces	<ul style="list-style-type: none">• Dual Gigabit Ethernet• ADC• DAC• I2C• 4 Push Buttons• 5 LEDs	Reference PCB Project with Connector Placement	Altium Designer PCB File (other formats available)
		Reference Schematic for Connector	Altium Designer Schematic File (other formats available)
Supply Voltage	5.0—14.0V DC		

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More Info	Click here for more info on the MAX-10 SOM and other add-on Modules