Trenz Electronic GmbH - TE0720-03-1CFA Datasheet

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Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of Embedded - Microcontroller,

Details	
Product Status	Obsolete
Module/Board Type	MCU, FPGA
Core Processor	ARM Cortex-A9
Co-Processor	Zynq-7000 (Z-7020)
Speed	-
Flash Size	32MB
RAM Size	1GB
Connector Type	Samtec LSHM
Size / Dimension	1.97" x 1.57" (50mm x 40mm)
Operating Temperature	0°C ~ 70°C
Purchase URL	https://www.e-xfl.com/product-detail/trenz-electronic/te0720-03-1cfa

SoC Module with Xilinx Zynq XC7Z020, 1 GByte DDR3, 8 GByte e.MMC

- Order number: TE0720-03-1CFA

Product information "SoC Module with Xilinx Zynq XC7Z020, 1 GByte DDR3, 8 GByte e.MMC"

The Trenz Electronic TE0720-03-1CFA are SoC modules integrating a Xilinx Zynq-7020, a gigabit Ethernet transceiver, 8 GBit (1 GByte) DDR3 SDRAM with 32-Bit width, 32 MByte Flash memory for configuration and operation, and powerful switch-mode power supplies for all on-board voltages. A large number of configurable I/O's is provided via rugged high-speed stacking strips.

All this on a tiny footprint, smaller than a credit card, at the most competitive price. Modules in 4 x 5 cm form factor are fully mechanically and largely electrically compatible among each other.

All parts are at least commercial temperature range of 0°C to +70°C. The module operating temperature range depends on customer design and cooling solution. Please contact us for options.

Key Features

- Xilinx Zynq XC7Z020-1CLG484C
- Rugged for high shock and vibration
- ARM dual-core Cortex-A9 MPCore
- 10/100/1000 tri-speed Gigabit Ethernet transceiver (PHY), SGMII accessible on a board-to-board connector
- USB 2.0 high speed ULPI transceiver
- 32-bit-wide 1 GByte DDR3 SDRAM
- 32 MByte QSPI Flash memory (for configuration and operation)
- 8 GByte e.MMC (up to 32 GByte)
- Plug-on module with 2 × 100-pin and 1 x 60-pin high-speed hermaphroditic strips
- 152 FPGA I/O's (75 LVDS pairs possible) and 14 MIO's available on board-to-board connectors
- On-board high-efficiency DC-DC converters
  - 4.0 A x 1.0 V power rail
  - 1.5 A x 1.5 V power rail
  - 1.5 A x 1.8 V power rail
- System management and power sequencing
- eFUSE bit-stream encryption

- AES bit-stream encryption
- Valid MAC Address and 2K serial EEPROM
- SHA-256 authentication chip with unique serial number
- RTC, temperature compensated
- 3 user LED
- Evenly-spread supply pins for good signal integrity

Other assembly options for cost or performance optimization plus high volume prices available on request.

Depending on the customer design, additional cooling might be required.

Recommended Software

Vivado HL WebPACK Edition (free version)

The Vivado Design Suite HL WebPACK Edition is the FREE version of the design suite. Vivado HL WebPACK delivers instant access to some basic Vivado features and functionality at no cost.

All Xilinx Vivado Versions

Development Support

There are different base boards available for this module.

Latest documentation, design support files and reference designs with source files are available for download free of charge.

Package Content

- 1x TE0720-03-1CFA Trenz Electronic 4 x 5 cm Micromodule
- 4x bolts and screws

Additional Information

- Manufacturer's article number: TE0720-03-1CFA
- Trenz Electronic TE0720 Wiki
- Support Forum

The online pictures of this product are not a legally binding offer, but are symbol pictures for illustration and presentation only.

All modules produced by Trenz Electronic are developed and manufactured in Germany.