Trenz Electronic GmbH - TE0841-02-040-1I 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	FPGA Core
Core Processor	Kintex UltraScale KU40
Co-Processor	-
Speed	-
Flash Size	32MB
RAM Size	512MB
Connector Type	B2B
Size / Dimension	1.97" x 1.57" (50mm x 40mm)
Operating Temperature	-40°C ~ 85°C
Purchase URL	https://www.e-xfl.com/product-detail/trenz-electronic/te0841-02-040-1i

Micromodule with Xilinx Kintex UltraScale XCKU040-1SFVA784I, 2 GByte DDR4

Order number: TE0841-02-040-1I

Product information "Micromodule with Xilinx Kintex UltraScale XCKU040-1SFVA784I, 2 GByte DDR4"

The Trenz Electronic TE0841-02-040-1I is an industrial-grade FPGA module integrating a Xilinx Kintex UltraScale KU40, 2 banks of 512 MByte (16 bit width) DDR4, 32 MByte QSPI Flash 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 industrial temperature range of -40°C to +85°C. The module operating temperature range depends on customer design and cooling solution. Please contact us for options.

Key Features

- Xilinx Kintex UltraScale KU40 FPGA XCKU040-1SFVA784I
- Rugged for industrial application
- Size: 40 x 50 mm
- 3 mm mounting holes for skyline heat spreader
- 2 GByte 16 bit wide DDR4
- 64 MByte SPI Boot Flash
- B2B Connectors: 3 x Razor Beam, total 260 terminals
    - User I/O: HR 56, HP 84
    - Serial transceiver: GTH 8 lanes (all)
    - GT clock inputs: 2

- Clocking
    - Si5338 - 4 output PLL, GT and PL clocks
    - 200 MHz LVDS oscillator
- Power
    - All power supplies on board, single supply operation supported.
    - User defined IO-Bank power
- Evenly spread supply pins for good signal integrity.

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

Recommended Software

Vivado HL Design Edition

Overview 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

- 1 x TE0841-02-040-1I Micromodule 4 x 5 cm with Kintex UltraScale XCKU040 (industrial temperature range)