

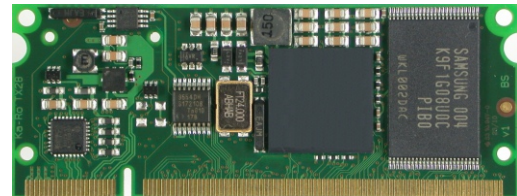
TRITON-TX28S very low-cost system-on-module based on Freescale i.MX283

TRITON-TX28S is a very economically priced self-contained production-quality module, based on a Freescale i.MX283 ARM9 microcontroller clocked at 454MHz, with high-quality implementations of both Windows CE and Linux. TRITON-TX28S is a complete solution, with full software support, and ready to be designed into an embedded system.

For development you simply plug the TRITON-TX28 into the StarterKit-5 development baseboard, and then in production the StarterKit is replaced by your own custom breakout base, which may be designed and manufactured by you, or by us on your behalf.

Because the TRITON system includes a production quality Board Support Package (BSP) and production quality module, project times are cut dramatically.

is accessible via a standard DIMM200 socket, which in turn is all available via connectors and headers on the StarterKit-5. The overall size of TRITON-TX28S is 67.6mm x 26mm x 4.2mm.



TRITON-TX28S ARM9 Module Shown Actual Size

The module operates from a single 5.0V supply, and may be powered via USB, or a Li-Ion/Polymer cell. The TX28S ships with bootloader firmware installed, and full Linux 2.6, Windows Embedded CE 6.0 BSP with the StarterKit-5 baseboard.

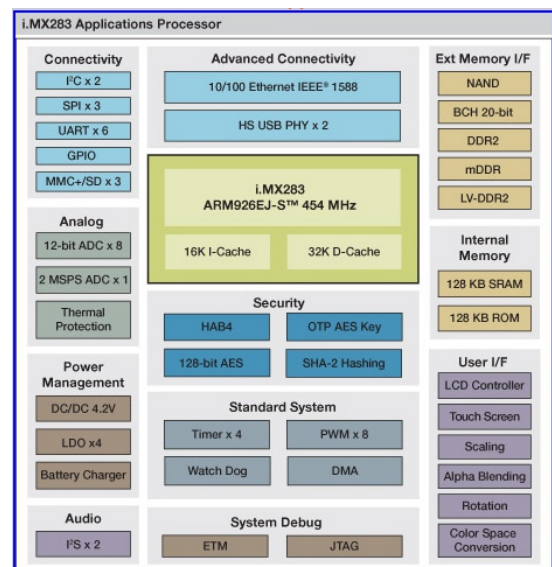


TRITON Starter Kit and optional touch-screen

The system is supplied running either Linux 2.6, or Windows Embedded CE 6.0.

TRITON-TX28S includes an i.MX283 454MHz ARM9 processor, 64MB DDR2-400 RAM and 128MB NAND Flash.

The integrated display controller permits direct connection of an LCD screen of up to 800 x 480 resolution. The microcontroller also provides an Ethernet 10/100 MAC, with PHY provided on the module, as well as USB 2.0 host and OTG with on-chip PHY, SD Card, two UARTs and various other interfaces. The processor's I/O



StarterKit-5 Baseboard

For development purposes, the TRITON-TX28 plugs into the StarterKit-5 baseboard via its DIMM200 connector. This combination, with optional touch-screen display is supplied as a complete development kit running Linux or Windows CE 6.0. With the Linux BSP, a complete GCC toolchain is shipped, allowing users to modify the BSP as required, as well as a complete development environment as a VMWare virtual disk. Windows CE source code is available for a fee.

The StarterKit-5 includes connectors for all the I/O provided by the ARM9 processor and TRITON-TX28S, including an SD/MMC card socket, 2 x RS232 connectors, USB-OTG and USB-Host connectors, a D-SUB15 VGA connector for the video DAC and Ethernet PHY and connector. In addition, there is an audio codec and touchscreen controller with two 3.5mm audio connectors.

The board is powered via USB, or optional external supply source..

To facilitate creation of a production baseboard, full schematics are provided for the StarterKit-5. We offer a custom baseboard design and production service for customers with tight time-to-market constraints who wish to focus their efforts on application development.

There is also a JTAG interface, which can be used for the

connection of a debug probe.

An optional LCD touch screen is available, based on a 5.7" TFT display with 640 x 480 resolution. Other screen sizes are available on request. This is connected to the display controller and touch controller of the i.MX28 via headers.

TRITON-TX28S Feature and Option Summary

The table shows how the various features of the development system are available - in other words, whether they are standard features of the microcontroller, the TRITON-TX28S module or the StarterKit-5. Features of the more highly specified TRITON-TX28 are provided in brackets for comparison purposes.

The complete list of connectors on StarterKit-5 is:

- DIMM200 TRITON-TX socket
- 4x50pin cable headers
- 2x SD/MMC card socket
- RS232 on 10pin header
- RS232 on D-SUB connector
- USB OTG
- USB host
- Video Output to D-SUB 15
- 3.5mm headphone
- JTAG
- 10/100 Mbit Ethernet
- Power (or via USB Host)

TRITON StarterKit systems, whether running Linux or Windows CE are sold and supported worldwide by Direct Insight, who also offer a broad range of complementary solutions including compilers, debuggers, JTAG interfaces, graphics software, driver development tools, device programming solutions, JTAG test systems, emulators and more.

We also offer a custom baseboard design and manufacture service.

Visit our regularly updated website at www.directinsight.co.uk or call +44 1295 768800 for further information.

<i>TRITON-TX28S Feature:</i>	Support	details
Microcontroller	i.MX283 (287)	
Processor Core	ARM926EJ-S	454MHz clock
RAM (MB)	64 (128)	DDR2-400
NAND Flash (MB)	128	
UART / RS232	2 (5)	1x 4-wire, 1x 2-wire
I ² C Interface	2	
LCD controller	1	24bpp
Serial Audio / SSI	1 (2)	
CAN	- (2)	TRITON-TX28 only
SD card / SDIO (4-bit)	1	
USB 2.0 Host	1	PHY on processor
USB 2.0 OTG	1	PHY on processor
SPI	1	
PWM controller	1	
JTAG	1	
Audio Codec		on baseboard
Resistive touch	4/5 wire	on processor
Capacitive Touch	1	via I ² C
Video DAC / VGA out		on baseboard
Ethernet 10/100 BaseT	1 (2)	
Single Supply (V)	5.0	
I/O voltage (V)	3.3	
Linux	y	
Windows CE 6.0	y	
Temperature Range	0 to +70C	(-40C/+85C)
Dimensions	26 x 68mm	SODIMM200

(features of TRITON-TX28 in brackets)



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