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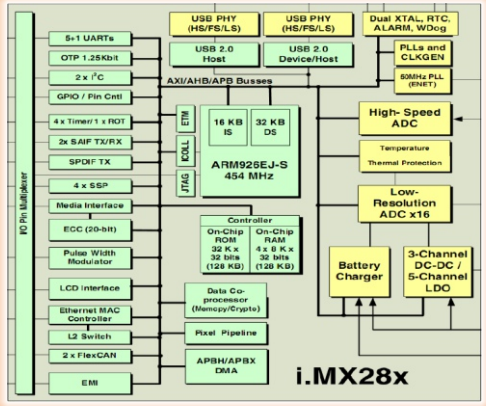
TRITON-TX28 | high performance module with Freescale i.MX287

Actual Size

- pin-compatible
- guaranteed longevity
- EU manufacture
- Production-ready BSPs
- Responsive support



TRITON-TX28 is a self-contained production-quality module, based on a Freescale i.MX287 ARM9 microcontroller at 454MHz, in automotive temperature grade (-40C / +85C) with high-quality implementations of both Windows CE and Linux. TRITON-TX28 is a complete solution, with full software support, and ready to be designed into an embedded system. A lower cost, i.MX283-based version of the module is also available (see separate datasheet).

Why TRITON-TX?

TRITON-TX28 is a low-cost, high-performance member of a series of pin-compatible, SODIMM format modules based on Freescale's i.MX and Texas Instruments' Sitara series of microcontrollers. The TRITON-TX28 maintains the family compatibility and has a guaranteed production lifetime of 10 years.

Because the TRITON-TX module family is pin-compatible, a baseboard may be developed that will work with different family members, from ultra-low-cost ARM9 modules, such as TRITON-TX28S, through to multicore ARM Cortex-A9 devices. TRITON-TX modules are manufactured in the EU, to the highest quality standards, and production-quality Board Support Packages are backed up by responsive, hands-on tech support.

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 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.

The system is supplied running either Linux 2.6, Windows Embedded CE 6.0, or Windows Embedded Compact 7

TRITON-TX28 includes an i.MX287 454MHz ARM9 processor, 128MB 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 two integral Ethernet 10/100 MACs, with IEEE1588 timestamping capability, as well as USB 2.0 host and OTG with on-chip PHY, dual CAN, SD Card, UARTs and various other interfaces. The processor's I/O 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-TX28 is 67.6mm x 26mm x 4.2mm.

The module operates from a single 3.1 - 5.5V supply, and may be powered via USB, or a Li-Ion/Polymer cell. The TX28 ships with bootloader firmware installed, and full Linux 2.6, Windows Embedded CE 6.0, and Windows Embedded Compact 7 BSPs with the StarterKit-5 baseboard.

StarterKit-5 Baseboard

For development purposes, the TRITON-

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TRITON-TX28 Feature:	Support	details
Microcontroller	i.MX287	
Processor Core	ARM926EJ-S	454MHz clock
RAM (MB)	128	DDR2-400
NAND Flash (MB)	128	
UART / RS232	5	2 standard, 5 max
I²C Interface	2	
LCD controller	1	24bpp
Serial Audio / SSI	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 I²C
Video DAC / VGA out		on baseboard
Ethernet 10/100 BaseT	2	internal L2 switch
Single Supply (V)	3.1-5.5	
I/O voltage (V)	3.3	
Linux	y	
Windows CE 6.0	y	Compact 7 also available
Temperature Range	-40C/+85C	
Dimensions	26 x 68mm	SODIMM200

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 / Compact 7. 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-TX28, including an SD/MMC card sockets, 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, and external supply source, or from a 3.0 to 4.2v Li-Ion /Polymer cell.

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, in various sizes from 4.3" to 7", with resistive or capacitive touch. This is connected to the display controller and touch controller of the i.MX28 via headers.

freescale Alliance Member

ARM CONNECTED

Windows Embedded Gold Partner

DIRECTinsight
directinsight.co.uk
Direct Insight Ltd, The Hayloft, Greatworth Hall, Greatworth, Oxfordshire, England
OX17 2DH Tel: +44 1295 768800