

Topaz i.MX25 CPU Module

Accelerating Embedded Development

Create small, smart, connected devices faster with the Topaz i.MX25 CPU module.

Reduce Development Time and Cost

Focus on your product, and not on complex processor design

When you start a design using Topaz, you eliminate a big piece of complex and risky design work. There is no memory interfacing or power supply design work to be done. You can also forget about having to lay out multi-layer boards with several BGA chips; that work is done too and it's all packaged into a module that is easy to integrate into your final design.

Start writing your application, and not porting an Operating System

Don't spend time writing low-level C and assembly code, or spending hours bringing up your prototypes. Topaz runs Windows CE 6.0 and Linux. Choose the OS you need, the tools you know, and get to work on the features your customers are looking for.

Get started on real hardware

The Topaz Development Kit provides a platform for evaluation and prototyping of new designs. Common features are available on the board and expansion connectors make it easy to add application specific components.

The Right Features for Your Product

High level of integration

Topaz integrates features required by the automotive, industrial and general embedded market. By including memory, power management and I/O Ethernet, the system's bill of materials costs are reduced.

Low-power design

The i.MX25, Freescale power management technology and Mobile DDR memory make the Topaz the ideal choice for portable and power sensitive applications.

Ready for Production

Choice of form-factors

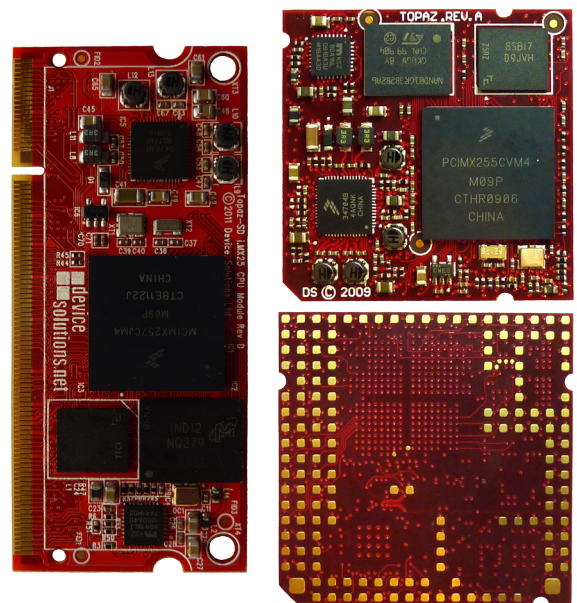
Choose the SO-DIMM plug-in form factor for quick-and-easy prototyping and production, or the surface-mount Topaz for rugged applications.

Flexible licensing options

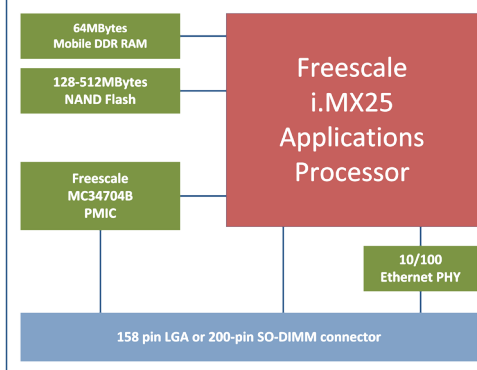
Keep your final product price low with flexible, royalty-free licensing options.

The right mix of parts for your design

Topaz supports the range of i.MX25 processors, different RAM & flash sizes and temperature ratings, so you can choose the right mix of features at the best price for your design.



Topaz i.MX25 CPU Module
Simplified Block Diagram



Example applications include:

- Human Machine Interfaces (HMI)
- Industrial Control Devices
- Building and Home Automation
- Automotive Displays
- Medical Devices
- Point-of-Sale



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Topaz i.MX25 CPU Module Features

Core

- Freescale i.MX25 applications processor including ARM926EJ-STM core at 400MHz
- 64MBytes Mobile DDR
- Power Management IC
- Voltage input - run off USB or Li-ion battery

Security

- High-assurance boot (HAB)
- Secure counters
- Volatile key storage
- Robust tamper detection and secure key erase
- True random number generator
- User programmable e-fuses

Connectivity

- 10/100 Ethernet (PHY included on Topaz CPU)
- 2x FlexCAN
- High-Speed USB Host + OTG
- Additional Full-Speed USB Host
- 2x SD/SDIO/MMC
- 2x Smartcard/SIM
- 5x UART
- Configurable SPI
- I2C
- One-Wire
- 3x 12-bit ADC
- 3.3V General Purpose I/O

Graphics and User Interface

- Display controller optimized for up to 16-bits-per-pixel SVGA (800x600)
- CMOS/CCD sensor interface for camera or video input
- Resistive touch screen controller
- Keypad controller

Operating System Software Options

- Microsoft Windows Embedded CE 6.0
- Linux

Topaz i.MX25 Development Kit

The Topaz i.MX25 Development Kit is an ideal platform for prototyping new devices.

Kit Includes:

- Development board
- USB Cable (power and communications)
- Ethernet Cable
- Serial Cable
- Getting Started Guide and software available for download from www.devicesolutions.net/Topaz.aspx

LCD Options

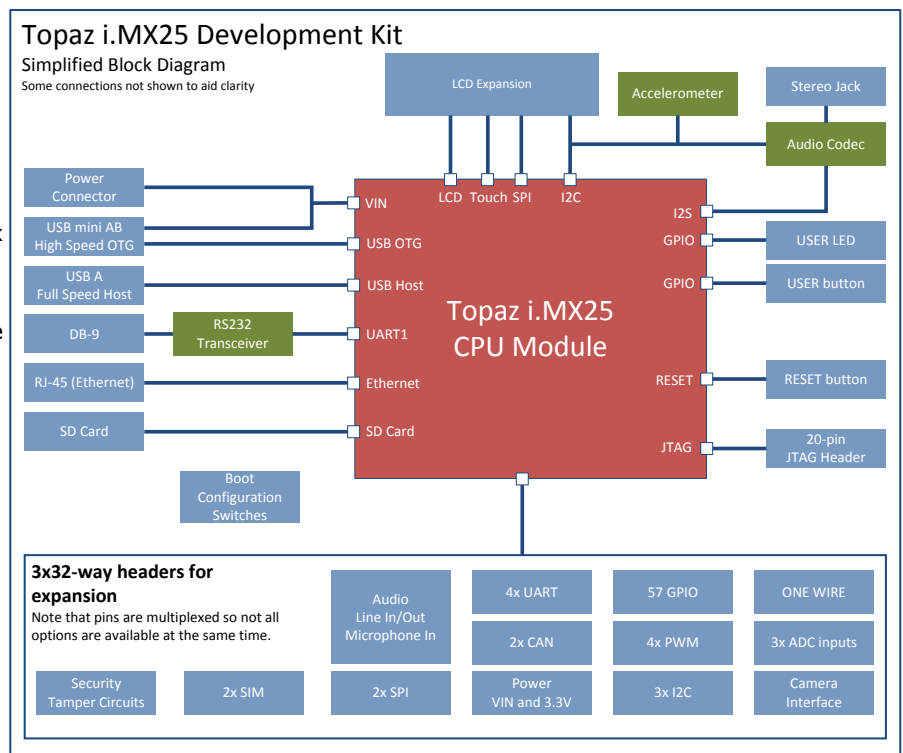
The LCD expansion header makes it easy to choose the display type and size you need, and test new displays.

Options include:

- 7" WVGA (800x480) with touch screen
- 4.3" WQVGA (480x272) with touch screen

Design Support

- Full hardware and software design support available



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