



i.MX

ARM®-Based Applications Processors Family

The i.MX family of multimedia applications processors extends Freescale's ARM9™ and ARM11™ portfolio introducing DDR2 support on newer devices. These 32-bit processors provide a high level of integration and support for operating systems such as Windows® Embedded® CE and Linux®. The i.MX family offers long battery life, minimum external components, high processing performance and is well suited for display and multi-media applications.

Applications

- Automotive infotainment
- Barcode scanners
- eBooks
- Factory automation and robotics
- Graphical keypads
- Graphical remote controls
- Graphical security panels
- Home displays
- Human Machine Interface (HMI)
- Portable media players
- Portable navigation devices
- Printers
- Smart meters
- Wired/wireless payment devices

Features

i.MX233

- ARM9 running 454 MHz
- Power management unit
 - Integrated DC-DC converter that supports Li-Ion batteries
 - Features multi-channel outputs to provide power to external components
 - Direct power source from 5V source (USB, wall power, or other source) with programmable current limits for load
 - Battery charger for Li-Ion cells
 - Silicon speed and temperature sensors to enable adaptive power management over temperature and silicon process
- Highly flexible display controller
 - Touch screen controller
 - 6-channel 12-bit Low Resolution A/D Converter (LRADC)
 - Up to 24-bit RGB (DOTCK) modes
 - Up to 24-bit system-mode including VSYNC and WSYNC modes
 - Up to VGA (640 x 480) resolution at 60 Hz LCD panel support

- 8-bit data ITU-R BT.656 D1 digital video stream output mode (PAL/NTSC), with on-the-fly RGB to YCbCr color-space-conversion
- Analog audio
 - Stereo audio A/D converter, D/A converter
 - Headphone amplifier
 - Speaker amplifier
 - Microphone input
 - Line-in
 - S/PDIF digital out
- Pixel Processing Pipeline (PXP)
 - Provides full path from color-space conversion, scaling, alpha-blending to rotation without intermediate memory access
 - Bi-linear scaling algorithm with cropping and letterboxing
 - Alpha-blend, BITBLT, color-keying
 - Memory efficient block-based rotation engine
 - Supports up to eight overlays
- Integrated TV-out support
 - Integrated PAL/NTSC TV-encoder fully pipelined to display controller's D1 resolution output stream
- Dual Serial Audio Interface (SAIF); three stereo pairs
 - Full-duplex stereo transmit and stereo receive operations

i.MX35

- ARM11 running 532 MHz
- Multimedia and graphics processing
 - Optimized for up to 24-bit-per-pixel WVGA (800 x 480) resolution
 - Industry-standard OpenVG graphics accelerator capable of up to 133 million pixels per second fill rate
 - Image Processing Unit (IPU) for image scaling, image blending, rotation and color space conversion
 - CMOS/CCD sensor interface for camera or video input
 - Image sensor camera input
 - Enhanced serial audio interface
- Connectivity
 - 2 x FlexCAN modules
 - High-speed USB OTG with integrated high-speed PHY

i.MX25

- ARM9 running at 400 MHz
- Multimedia and graphics processing
 - Display controller optimized for up to 16-bit-per-pixel VGA (640 x 480) resolution
 - CMOS/CCD sensor interface for camera or video input

- Connectivity
 - 2 x FlexCAN modules
 - High-speed USB OTG with integrated high-speed PHY
 - 5x UART
- Memory
 - Support for external DDR2, mDDR or SDRAM
 - Support for external NAND or NOR Flash

i.MX233 EVK

- 2 x 64 MB DDR1
- 4 GB NAND Flash
- SPI Flash/EEPROM footprints
- ETM support
- Li-Ion battery connector
- 4.3" WQVGA touchscreen LCD display (add-on module)
- SD/MMC card slot
- USB host/device
- Ethernet supported via SPI header
- Navigation keys
- Mic input, headphone output (jack)

- Line-in jack
- Speaker connector

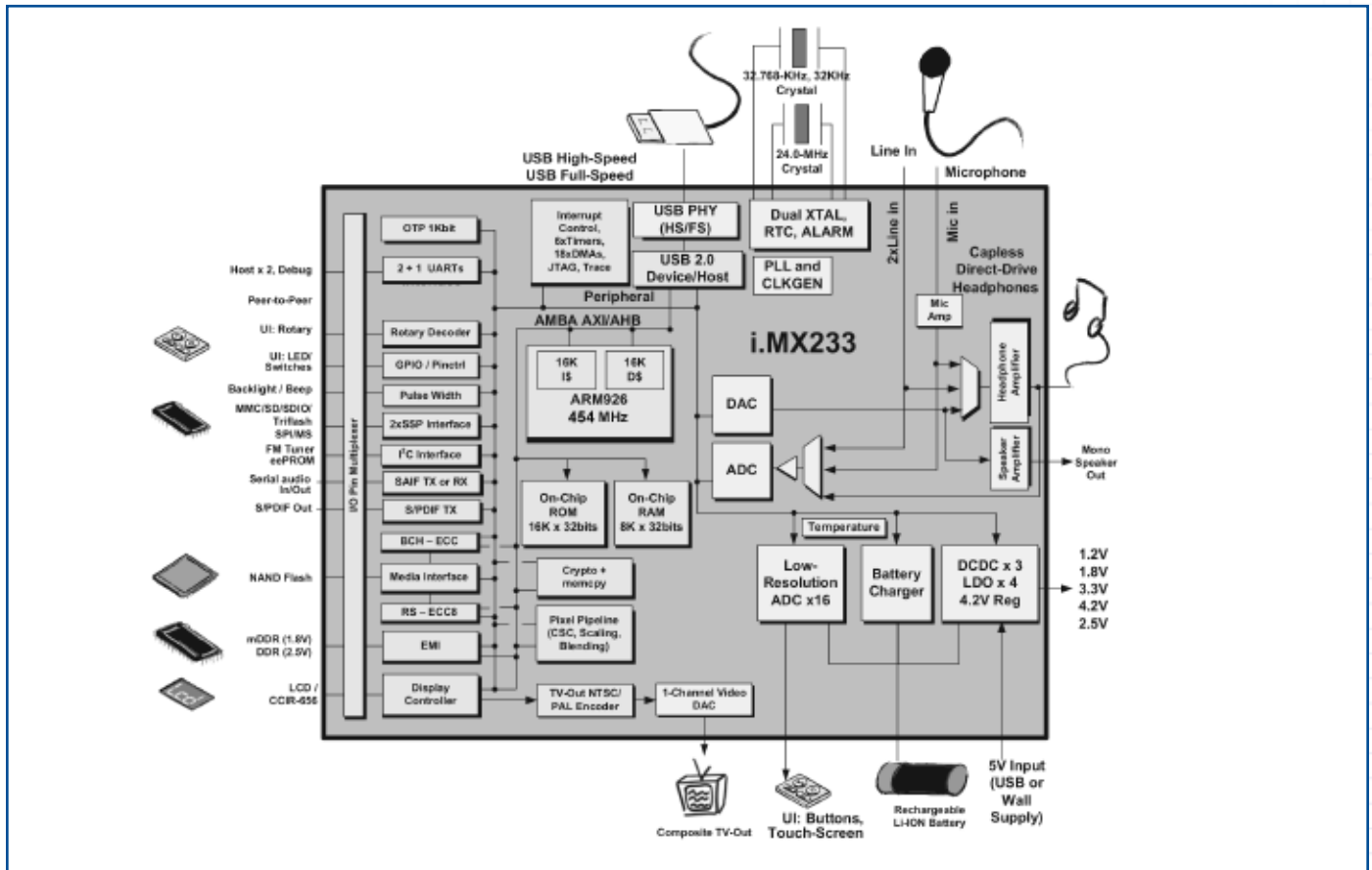
i.MX35 PDK

- Power management (Freescale PMIC MC13892) + power circuitry
- WinCE 6.0 and Linux 2.6.26 BSPs
- 7" WVGA with touchscreen
- CAN, Ethernet, and USB connectors
- 256 MB DDR2
- 64 MB NOR Flash
- 2 GB NAND Flash

i.MX25 PDK

- Power management (Freescale PMIC MC34704B) + power circuitry
- WinCE 6.0 and Linux 2.6.26 BSPs
- 5.7" VGA with touchscreen
- 64 MB DDR2
- 2 GB NAND Flash
- CAN, Smartcard, Ethernet, and USB connectors

i.MX233 Block Diagram



For more information, such as datasheets and app notes, visit www.arrow.com/arrowedge.