

A23 DUAL-CORE PROCESSOR

The Most Efficient Dual-Core Mobile Application Processor

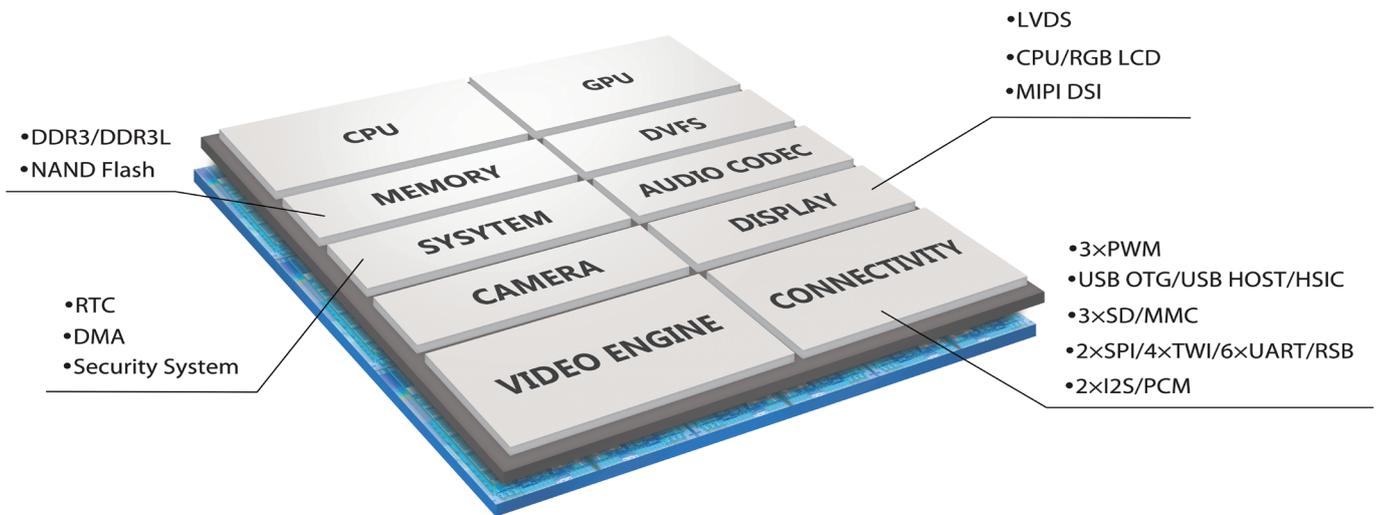


The Allwinner A23 is an extremely efficient dual-core mobile application processor designed to bring impressive performance to your leading-edge mobile devices while maintaining low power consumption. It is also highly competitive in terms of total system cost thanks to its high system integration.

The A23 features dual Cortex™-A7 CPU cores to enable the best balance between high performance and power efficiency. In addition, this dual-core processor features mainstream, leading GPU technology to deliver amazing graphics, fluid video, and immersive gaming experiences. With outstanding 1080p HD video processing capability, WXGA display support, 5MP image sensor support, multiple video format support and advanced DDR technology, the A23 delivers performance beyond expectations.

Allwinner designed the A23 to enable stunning battery life experiences for end devices. A23 achieves lower power through a balanced combination of several features: ultra energy-efficient Cortex™-A7 CPU cores, an advanced fabrication process, optimized DVFS technology, and a unique Talking Standby Mode that allows extremely low power consumption during voice calls. Allwinner's A23 also comes with a wide range of high integration and connectivity including 4-lane MIPI DSI, LVDS, USB OTG/HOST, SD/MMC, I2S/PCM and RSB, etc, significantly reducing system cost and speeding up product time to market.

BLOCK DIAGRAM



FEATURES

Specifications & Features

- CPU**
- Cortex™-A7 Dual-Core
 - 128KB L1 Cache
 - 256KB L2 Cache

- GPU**
- Mali400MP2
 - Supports OpenGL ES 2.0 / VG 1.1 standards

- Video**
- Supports 1080p@60fps video playback
 - Supports multi-format FHD video decoding, including Mpeg1/2, Mpeg4 SP/ASP GMC, H.263, H.264, WMV9/VC-1, etc.
 - Supports H.264 High Profile 1080p@60fps encoding
 - Complies with RTSP, HTTP, HLS, RTMP, MMS streaming media protocols
 - Supports OpenMax protocol

- Display**
- Supports 1/2/4-lane MIPI DSI up to 1280x800 resolution
 - Supports MIPI DSI V1.01 and MIPI D-PHY V1.00
 - Supports command mode and video mode (non-burst mode with sync pulses, non-burst mode with sync event and burst mode)
 - Supports RGB/CPU/LVDS LCD up to 1280x800 resolution

- Camera**
- Integrated parallel camera sensor interface
 - Supports 5M CMOS sensor
 - Supports 8-bit YUV sensor

- Memory**
- Supports DDR3/DDR3L SDRAM controller
 - Supports 8-bit NAND Flash controller

- Audio**
- Integrated Hi-Fi audio codec
 - Two integrated differential analog mic amplifiers for headset and phone
 - Supports Talking Standby Mode for ultra-low power consumption during voice calls

- PMIC**
- AXP223 PMIC
 - Supports 21-channel power output and 2.1A Flash charging
 - Complies with USB 3.0 power supply standard

- OS**
- Supports Android 4.2 and above
 - Supports Android multi-user function

SELECTION GUIDE

ALLWINNER CORTEX-A FAMILY

	A31	A31s	☆ A23	A10s	A13
CPU	Quad-Core Cortex™-A7	Quad-Core Cortex™-A7	Dual-Core Cortex™-A7	Single-Core Cortex™-A8	Single-Core Cortex™-A8
GPU	SGX544MP2	SGX544MP2	Mali400MP2	Mali400	Mali400
Video Playback	4Kx2K	2160p	1080p	1080p	1080p
Video Capture	H.264 HP 1080p@60fps	H.264 HP 1080p@30fps 720p@60fps	H.264 HP 1080p@60fps	H.264 MP 720p@30fps	H.264 MP 720p@30fps
LCD	2048X1536	1280x800	1280x800	1024x768	1024x600
Package	BGA609 18mmx18mm 0.65mm Pitch	BGA460 18mmx18mm 0.80mm Pitch	BGA280 14mmx14mm 0.80mm Pitch	BGA336 14mmx14mm 0.65mm Pitch	eLQFP176 20mmx20mm
Applications	Tablet Smart TV	Phablet	Tablet	HDMI Dongle	Tablet E-reader

ABOUT ALLWINNER: Allwinner Technology is a leading fabless design company dedicated to smart application processor SoCs and smart analog ICs. Its product line includes multi-core application processors for smart devices and smart power management ICs used by brands worldwide.

With its focus on cutting edge UHD video processing, high performance multi-core CPU/GPU integration, and ultra-low power consumption, Allwinner Technology is a mainstream solution provider for the global tablet, internet TV, smart home device, automotive in-dash device, smart power management, and mobile connected device markets. Allwinner Technology is headquartered in Zhuhai, China.

This brief is for reference only and has no commitment. All content contained herein is subject to changes without notice. For more information, please contact service@allwinnertech.com.