



3rd Generation AMD Embedded G-Series SoCs provide pin and software stack compatibility with high-end AMD Embedded R-Series SoCs enabling you to maintain design continuity, streamline development cycles, and scale your designs from low-end to high-end offerings. Discuss all your options with your AMD representative.

Product Brief

3rd Generation AMD Embedded G-Series SoC J Family

The Optimal Balance of Multimedia Processing Performance and Power Efficiency

PRODUCT OVERVIEW

AMD Embedded G-Series J Family SoCs provide optimized performance-per-watt and cutting-edge multimedia capabilities for a range of mainstream embedded applications. Delivering a 4K multimedia experience at a competitive price point, the midrange AMD Embedded G-Series J Family SoCs provide high-speed graphics and computing performance without compromising energy efficiency.

KEY BENEFITS

Scalability – Pin compatibility with the higher performance, AMD Embedded R-Series SoC allows design continuity and the ability to right size your solution.

High Performance, Competitive Price – AMD Embedded G-Series J Family SoCs support 4K high-speed video decode enabling crisp, eye catching multimedia at affordable price points.

Dual-display Flexibility – AMD Embedded G-Series J Family SoCs enable flexible multi-display configurability via two display interfaces.

Low Power Consumption – Ideal for applications with exacting energy efficiency requirements, AMD Embedded G-Series J Family SoCs support thermal design profiles (TDPs) measuring less than 10W.

Tight Integration, Compact Form Factor – AMD Embedded G-Series J Family SoCs integrate two x86 “Excavator” CPU cores with 1MB of shared L2 cache, up to three Radeon™ GPU compute units¹, and an I/O controller on a single die.

Supply Longevity – Planned availability for AMD Embedded G-Series J Family SoCs extends to up to 10 years, providing a long-lifecycle support roadmap.

TARGET APPLICATIONS

AMD Embedded G-Series J Family SOCs are designed to meet the processing requirements of a wide range of embedded applications, including thin client, digital signage, digital gaming, retail POS, industrial/automation, military/aerospace, smart camera, set-top box and networking/communications applications.

KEY FEATURES

- Flexible scalability across AMD FP4 class offerings including AMD Embedded R-Series SOCs and AMD Embedded G-Series I Family SOCs
- 2X “Excavator” x86 cores with 1MB shared L2 cache
- AMD Radeon™ graphics (up to 3CUs) with support for DirectX® 12
- Single channel 64-bit DDR4 or DDR3 memory
- 4K x 2K H.265 decode capability with 10-bit compatibility and multi format encode and decode
- Support for up to two display interfaces via HDMI® 2.0, DisplayPort 1.2, Embedded DisplayPort 1.4
- 1.0-compliant Heterogeneous System Architecture
- AMD Secure Processor
- High performance, integrated Controller Hub supports:
 - PCIe® Gen 3 1x4, PCIe Gen2/3 4x1
 - 2 USB3, 2 USB2 ports
 - 2 SATA 2.0/3.0 ports

AMD G-SERIES J FAMILY SOC BLOCK DIAGRAM



G-SERIES J AND JX FAMILY SOCs

AMD Embedded G-Series J and JX Family SOCs

	Model	OPN	Radeon Branding	Target TDP	Shared L2 Cache	Target CPU Base/Max Freq.	CPU CUs	Target GPU Freq.	Target DDR Freq.	Operating Temp Range Tj °C	ECC	Device ID	Rev ID
J FAMILY	GX-224J	GE224IAVY23AC	AMD Radeon™ R4E Graphics	10-15W	1MB	2.4/2.8GHz	3CU	600MHz	DDR4 2133 DDR3 1866	0-90°C	No	98E4	81h
	GX-215J	GE215JAWY23AC	AMD Radeon™ R2E Graphics	6-10W	1MB	1.5/2.0GHz	2CU	600MHz	DDR4 1866 DDR3 1600	0-90°C	No	98E4	83h
JX FAMILY	GX-220J	GE220IAVY23AC	AMD Radeon™ R2E Graphics	10-15W	1MB	2.0/2.2GHz	2CU	600MHz	DDR4 1866 DDR3 1600	0-90°C	No	98E4	84h
	GX-212J	GE212JAWY23AC	AMD Radeon™ R1E Graphics	6-10W	1MB	1.2/1.6GHz	1CU	600MHz	DDR4 1600 DDR3 1333	0-90°C	No	98E4	86h

www.amd.com/embedded/g-series

1. AMD Radeon™ and FirePro™ GPUs based on the Graphics Core Next architecture consist of multiple discrete execution engines known as a Compute Unit ("CU"). Each CU contains 64 shaders ("Stream Processors") working in unison.

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