

# AMD EPYC™ 7003 SERIES PROCESSORS

## THE NEW STANDARD FOR THE MODERN DATA CENTER

### AT A GLANCE

AMD continues to raise the bar for workload performance. Our 3rd Gen AMD EPYC™ Processors are designed to help IT professionals drive faster time to results and deliver better business outcomes. Continued enhancements to the innovative EPYC system-on-chip (SoC) design raise the bar again for performance, security features, and TCO.



#### WORKLOAD PERFORMANCE

##### *Turn raw data into actionable insights faster*

On premises, in the cloud, in containers, or on bare metal, AMD EPYC Processors have achieved leadership performance across a wide range of workloads with more than 250 world records—and counting<sup>1</sup>—helping provide faster time to results. Today, our new AMD EPYC 7003 processors with AMD 3D V-Cache™ technology—triple the L3 cache—up to 768 MB per socket—compared to our main-line 7003 Series processors, enabling breakthrough performance in several technical computing workloads.<sup>2</sup>



#### LEADERSHIP ARCHITECTURE

##### *Steady multiyear execution delivers continuing innovation and technology*

Based on AMD Infinity Architecture, 3rd Gen AMD EPYC processors deliver a full feature set across the entire CPU stack—you get to choose from our offered number of cores, frequencies, and cache sizes. Consistent memory capabilities, advanced security features, and I/O capacity are all included at no additional cost. Our no-compromise single socket options provide exceptional performance with up to 64 cores, 128 lanes of PCIe® Gen4 connectivity, up to 4 TB of memory across 16 DIMM slots. What's New? AMD EPYC 7003 Series processors with AMD 3D V-Cache technology drives silicon innovation into the 3rd dimension with up to 768 MB of L3 cache per processor!



#### SECURITY BY DESIGN

##### *A modern multi-faceted approach to data center security*

With advanced security features and a silicon-embedded security subsystem, 3rd Gen AMD EPYC Processors are 'hardened at the core,' helping you guard your most important assets—your data. AMD Infinity Guard<sup>3</sup> features help secure the boot process, encrypt the entire main memory with secure memory encryption (SME), and help secure virtualized environments and containers with secure encrypted virtualization (SEV). Our processors can help cryptographically isolate and secure more than 500 virtual machines per server. We deepen our security features with every new generation: All 3rd Gen AMD EPYC processors support AMD Secure Nested Paging (SEV-SNP) to help further secure your virtualized environments; and AMD Shadow Stack to help protect against malware changing the running software.



#### DATA YOUR WAY, ON-PREMISES OR IN THE CLOUD

##### *Gain fast time to value while maximizing IT investments*

AMD EPYC CPUs deliver. No matter how you want it, when you want it, or where the data is. You get the high performance, low TCO, and outstanding time-to-value IT professionals have come to expect from AMD EPYC powered servers. Today's data centers can be and are anywhere and everywhere. This is why AMD EPYC processor-powered servers are available for your data center and in the cloud with offerings from the major server and cloud providers.

*Continue reading for more technical detail*

# AMD EPYC™ 7003 SERIES PROCESSORS

MODEL	CORES	THREADS	BASE FREQ. (GHZ)	UP TO MAX BOOST FREQ. (GHZ) <sup>a</sup>	TDP (W)	L3 CACHE (MB)	DDR CHANNELS	UP TO MAX DDR FREQ. (1DPC)	PER-SOCKET THEORETICAL MEMORY BANDWIDTH (GB/S)	PCIe® GEN 4 LANES	2P/1P
7763	64	128	2.45	3.50	280	256	8	3200	204.8	128	2P/1P
7713	64	128	2.00	3.675	225	256	8	3200	204.8	128	2P/1P
7713P											1P
7663	56	112	2.00	3.50	240	256	8	3200	204.8	128	2P/1P
7643	48	96	2.30	3.60	225	256	8	3200	204.8	128	2P/1P
7543	32	64	2.80	3.70	225	256	8	3200	204.8	128	2P/1P
7543P											1P
7513	32	64	2.60	3.65	200	128	8	3200	204.8	128	2P/1P
7453	28	56	2.75	3.45	225	64	8	3200	204.8	128	2P/1P
7443	24	48	2.85	4.00	200	128	8	3200	204.8	128	2P/1P
7443P											1P
7413	24	48	2.65	3.60	180	128	8	3200	204.8	128	2P/1P
7343	16	32	3.20	3.90	190	128	8	3200	204.8	128	2P/1P
7313	16	32	3.00	3.70	155	128	8	3200	204.8	128	2P/1P
7313P											1P
AMD EPYC 7003 PROCESSORS WITH AMD 3D V-CACHE											
7773X	64	128	2.20	3.50	280	768	8	3200	204.8	128	2P/1P
7573X	32	64	2.80	3.60	280	768	8	3200	204.8	128	2P/1P
7473X	24	48	2.80	3.70	240	768	8	3200	204.8	128	2P/1P
7373X	16	32	3.05	3.80	240	768	8	3200	204.8	128	2P/1P
HIGH-FREQUENCY AMD EPYC 7003 SERIES PROCESSORS											
75F3	32	64	2.95	4.00	280	256	8	3200	204.8	128	2P/1P
74F3	24	48	3.20	4.00	240	256	8	3200	204.8	128	2P/1P
73F3	16	32	3.50	4.00	240	256	8	3200	204.8	128	2P/1P
72F3	8	16	3.70	4.10	180	256	8	3200	204.8	128	2P/1P

a. Maximum boost for AMD EPYC processors is the maximum frequency achievable by any single core on the processor under normal operating conditions for server systems. EPYC-18.

## FOOTNOTES

- As of 3/21/22. For a full list of world records, see <https://www.amd.com/en/processors/epyc-world-records>.
- "Technical Computing" or "Technical Computing Workloads" as defined by AMD can include: electronic design automation, computational fluid dynamics, finite element analysis, seismic tomography, weather forecasting, quantum mechanics, climate research, molecular modeling, or similar workloads. GD-204
- AMD Infinity Guard features vary by EPYC processor generations. Infinity Guard features must be enabled by server OEMs and/or Cloud Service Providers to operate. Check with your OEM or provider to confirm support of these features. Learn more about Infinity Guard at <https://www.amd.com/en/technologies/infinity-guard>. GD-183

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