AMD Versal™ Premium Portfolio Product Selection Guide

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AMD Versal™ Premium Series – Resources

All parameters listed are maximum values. Verify all data in this document with the device data sheets or product guides.

		VP1002	VP1052	VP1102	VP1202	VP1402	VP1502	VP2502	VP1552	VP1702	VP1802	VP2802	VP1902
AI Engine	AI Engines Tiles	–	–	–	–	–	–	472	–	–	–	472	–
	AI Engine Data Memory (Mb)	–	–	–	–	–	–	118	–	–	–	118	–
Programmable Logic	System Logic Cells (K)	833	1,186	1,575	1,969	2,233	3,763	3,738	3,837	5,558	7,352	7,326	18,507
	LUTs	380,800	542,080	719,872	900,224	1,020,928	1,720,448	1,708,672	1,753,984	2,540,672	3,360,896	3,349,120	8,460,288
	DSP Engines	1,140	1,572	1,904	3,984	2,672	7,440	7,392	7,392	10,896	14,352	14,304	6,864
	NoC Master / NoC Slave Ports	22	22	30	28	42	52	52	52	76	100	100	192
	Super Logic Regions (SLRs)(1)	–	–	–	–	–	2	2	2	3	4	4	4
	Distributed RAM (Mb)	12	17	22	27	31	53	52	54	78	103	102	258
Memory	Block RAM (Mb)	19	26	49	47	70	89	89	89	132	174	174	239
	UltraRAM (Mb)	97	138	127	190	181	366	366	366	541	717	717	619
	Multiport RAM (Mb)	80	80	–	–	–	–	–	–	–	–	–	–
	Total PL Memory (Mb)	208	261	198	264	282	508	507	509	751	994	994	1116
	DDR4 Memory Controllers	2	2	3	4	3	4	4	4	4	4	4	14
	DDR Bus Width	128	128	192	256	192	256	256	256	256	256	256	896
Processing System	Application Processing Unit	Dual-core Arm® Cortex®-A72, 48 KB/32 KB L1 Cache w/ parity & ECC; 1 MB L2 Cache w/ ECC											
	Real-Time Processing Unit	Dual-core Arm Cortex-R5F, 32 KB/32 KB L1 Cache, and 256 KB TCM w/ECC											
	Memory	256 KB On-Chip Memory w/ECC											
	Connectivity	Ethernet (x2); UART (x2); CAN-FD (x2); USB 2.0 (x1); SPI (x2); I2C (x2)											
Serial Transceivers	GTY Transceivers	8	8	–	–	–	–	–	–	–	–	–	–
	GTYP Transceivers	–	–	8	28(2)	8	28(2)	28(2)	68(2)	28(2)	28(2)	28(2)	128
	GTM Transceivers (58G (112G))	24 (12)	36 (18)	64 (32)	20 (10)	96 (64)(3)	60 (30)	60 (30)	20 (10)	100 (50)	140 (70)	140 (70)	32 (16)
Integrated Protocol IP	PCIe® w/DMA (CPM4)	2 x Gen4x4	2 x Gen4x4	–	–	–	–	–	–	–	–	–	–
	PCIe w/DMA (CPM5)	–	–	–	2 x Gen5x8	–	2 x Gen5x8	2 x Gen5x8	2 x Gen5x8	2 x Gen5x8	2 x Gen5x8	2 x Gen5x8	–
	PCIe (PL PCIE4)	1 x Gen4x8	1 x Gen4x8	–	–	–	–	–	–	–	–	–	–
	PCIe (PL PCIE5)	–	–	2 x Gen5x4	2 x Gen5x4	2 x Gen5x4	2 x Gen5x4	2 x Gen5x4	8 x Gen5x4	2 x Gen5x4	2 x Gen5x4	2 x Gen5x4	16 x Gen5x4
	100G Multirate Ethernet MAC	3	5	6	2	6	4	4	4	6	8	8	12
	600G Ethernet MAC	2	3	7	1	11	3	3	1	5	7	7	4
	600G Interlaken	1	2	–	–	–	1	1	–	2	3	3	–
	400G High-Speed Crypto Engine	1	1	3	1	4	2	2	2	3	4	4	–
Ordering Information	Extended(4)	-1MSE, -1LSE, -2MSE, -2MLE, -2LSE, -2LLE		-1MSE, -1LSE, -2MSE, -2MLE, -2LSE, -2LLE, -3HSE									
	Industrial(4)	-1MSI, -1MLI, -1LSI, -1LLI, -2MSI, -2MLI, -2LLI, -2HSI		-1MSI, -1MLI, -1LSI, -1LLI, -2MSI, -2MLI									-

1. Refers to logic SLRs only.
2. 16 GTYP transceivers are dedicated to the CPM5 for PCI Express use.
3. The VP1402 device in the VSVD2197 package can run 64 GTM transceivers in any 8 quads at 112 Gb/s.
4. In extended and industrial temperature grades, some ordering combinations can operate for a limited time with a junction temperature of 110°C. Timing parameters adhere to the same speed file at 110°C as they do below 110°C regardless of operating voltage. Operation at 110°C Tj is limited to 3% of the device lifetime and can occur sequentially or at regular intervals as long as the total time does not exceed 3% of device lifetime.

All parameters listed are maximum values. Verify all data in this document with the device data sheets or product guides.

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AMD Versal™ Premium Series – Packaging

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			VP1002	VP1052	VP1102	VP1202	VP1402	VP1502	VP2502	VP1552	VP1702	VP1802	VP2802	VP1902
Package	Package Dimensions (mm)	Ball Pitch (mm)	XPIO: DDR Only, DDR+PL, PL Only HDIO, MIO GTY, GTM (112G)		XPIO DDR Only, XPIO DDR+PL, XPIO PL Only HDIO, MIO GTYP, GTM (112G)									
SBVJ1369	31x31	0.80		192, 132, 0 0, 78 8, 16 (8)										
NFVI1369	35x35	0.92	84, 78, 0 0, 78 8, 24 (12)	84, 78, 0 0, 78 8, 36 (18)										
VFVF1760[1]	40x40	0.92	138, 186, 0 0, 78 8, 24 (12)	138, 186, 0 0, 78 8, 36 (18)	132, 192, 0 0, 78 8, 36 (18)		132, 192, 0 22, 78 8, 36 (18)							
VSVD2197	45x45	0.92					0, 54, 0 0, 78 8, 96 (64)[3]							
VSVA2785[2]	50x50	0.92			180, 306, 0 0, 78 8, 64 (32)	132, 516, 54 0, 78 28, 20 (10)	180, 306, 0 44, 78 8, 80 (40)	132, 516, 54 0, 78 28, 56 (28)		132, 516, 54 0, 78 68, 16 (8)				
VSVA3340	55x55	0.92					180, 306, 0 44, 78 8, 96 (48)	132, 354, 0 0, 78 28, 60 (30)		132, 354, 0 0, 78 68, 20 (10)	132, 354, 0 0, 78 28, 88 (44)			
VSVB3340	55x55	0.92							132, 516, 54 0, 78 28, 60 (30)					
LSVC4072	65x65	1.0										132, 516, 54 0, 78 28, 140 (70)		
VSVA5601	70x70	0.92							132, 516, 54 0, 78 28, 60 (30)		132, 516, 54 0, 78 28, 100 (50)	132, 516, 54 0, 78 28, 140 (70)	132, 516, 54 0, 78 28, 140 (70)	
VSVA6865	77.5x77.5	0.92												264, 2064, 0 88, 52 64, 32 (16)
VSVB6865	77.5x77.5	0.92												0, 1890, 0 88, 52 128, 32 (16)

1. Some packages are footprint compatible with Versal Prime series devices.
2. VP1202, VP1502, and VP1552 in VSVA2785 support peak LPDDR4 data rates in 486 I/O only. The remaining 216 I/O support limited data rates. See the associated data sheet.
3. GTM transceivers can operate at data rates up to 112 Gb/s by combining two transceivers together. The VP1402 device in the VSVD2197 package can run 64 GTM transceivers at 112 Gb/s.

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AMD Versal™ Premium Series – Figures of Merit

			VP1002	VP1052	VP1102	VP1202	VP1402	VP1502	VP2502	VP1552	VP1702	VP1802	VP2802	VP1902
AI Engine	AI Engine Peak Perf – INT8	TOPS	–	–	–	–	–	–	157	–	–	–	157	–
	AI Engine Peak Perf – INT8x16	TOPS	–	–	–	–	–	–	79	–	–	–	79	–
	AI Engine Peak Perf – INT16	TOPS	–	–	–	–	–	–	39	–	–	–	39	–
	AI Engine Peak Perf – CINT16	Complex TOPS	–	–	–	–	–	–	10	–	–	–	10	–
	AI Engine Peak Perf – FP32	TFLOPs	–	–	–	–	–	–	10	–	–	–	10	–
	AI Engine Peak SRAM Bandwidth	Tb/s	–	–	–	–	–	–	628	–	–	–	628	–
Programmable Logic	DSP Engine Peak Perf – INT8	TOPS	7.9	10.8	13.1	27.5	18.4	51.3	51.0	51.0	75.2	99.0	98.7	47.4
	DSP Engine Peak Perf – INT24	TOPS	2.6	3.6	4.4	9.2	6.1	17.1	17.0	17.0	25.1	33.0	32.9	15.8
	DSP Engine Peak Perf – CINT18	Complex TOPS	1.1	1.5	1.9	3.9	2.6	7.3	7.3	7.3	10.7	14.1	14.1	6.8
	DSP Engine Peak Perf – FP32	TFLOPs	1.8	2.5	3.1	6.4	4.3	12.0	11.9	11.9	17.5	23.1	23.0	11.1
	NoC Cross-sectional Bandwidth	Tb/s	1.1	1.1	1.7	2.2	1.7	2.2	2.2	2.2	2.2	2.2	2.2	4.4
Processing System	Arm® Cortex-A72 Performance	DMIPs	18,942	18,942	19,516	19,516	19,516	19,516	19,516	19,516	19,516	19,516	19,516	19,516
	Arm Cortex-R5F Performance	DMIPs	2,672	2,672	2,672	2,672	2,672	2,672	2,672	2,672	2,672	2,672	2,672	2,672
Memory	Total Bandwidth - Block RAM	Tb/s	77	108	202	193	285	366	366	366	539	712	712	980
	Total Bandwidth - Ultra RAM	Tb/s	37	52	48	72	69	138	138	138	205	271	271	234
	Total PL Memory Bandwidth	Tb/s	114	160	250	265	354	504	504	504	743	982	982	1214
	DDR4 Memory Bandwidth	GB/s	51.2	51.2	76.8	102.4	76.8	102.4	102.4	102.4	102.4	102.4	102.4	409.6
	LPDDR4 Memory Bandwidth	GB/s	68.3	68.3	102.4	136.5	102.4	136.5	136.5	136.5	136.5	136.5	136.5	546.0
I/O	Transceiver Bandwidth	Tb/s	3.91	6.70	7.95	4.15	11.66	8.79	8.79	6.77	13.43	18.07	18.07	12.10
	Sensor I/O Bandwidth	Gb/s	595	595	979	1,824	979	1,824	1,824	1,824	1,824	1,824	1,824	5,760
Connectivity Throughput	PCIe® Throughput	GT/s	384	384	256	768	256	768	768	1,536	768	768	768	2,048
	Interlaken Throughput	Gb/s	600	1,200	–	–	–	600	600	–	1,200	1,800	1,800	–
	Ethernet Throughput	Gb/s	1,500	2,300	4,800	800	7,200	2,200	2,200	1,000	3,600	5,000	5,000	3,600
	Crypto (AES-256) Throughput	Gb/s	400	400	1,200	400	1,600	800	800	800	1,200	1,600	1600	–
Connectivity Ports	10G Ethernet Ports	#	12	20	24	8	24	16	16	16	24	32	32	48
	25G Ethernet Ports	#	12	20	24	8	24	16	16	16	24	32	32	48
	40G Ethernet Ports	#	3	5	6	2	6	4	4	4	6	8	8	12
	50G Ethernet Ports	#	6	10	12	4	12	8	8	8	12	16	16	24
	100G Ethernet Ports	#	15	23	48	8	72	22	22	10	36	50	50	36
	200G Ethernet Ports	#	6	9	21	3	33	9	9	3	15	21	21	12
	400G Ethernet Ports	#	2	3	7	1	11	3	3	1	5	7	7	4

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AMD Versal™ Premium Series Gen 2 – Resources

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		2VP3102	2VP3202	2VP3402	2VP3502	2VP3602	2VP3422	2VP3522	2VP3622
Programmable Logic	System Logic Cells	1,407,560	1,743,560	2,561,160	3,273,480	3,273,480	2,561,160	3,273,480	3,273,480
	LUTs	643,456	797,056	1,170,816	1,496,448	1,496,448	1,170,816	1,496,448	1,496,448
	DSP Engines	3,332	4,004	6,080	2,856	7,616	6,080	2,856	7,616
	NoC Master / NoC Slave Ports	24	24	40	40	40	40	40	40
	Distributed RAM (Mb)	20	24	36	46	46	36	46	46
Memory	Block RAM (Mb)	44	53	78	99	99	78	99	99
	UltraRAM (Mb)	81	101	142	182	182	142	182	182
	Total PL Memory (Mb)	145	178	256	327	327	256	327	327
	DDR Memory Controllers (DDRMC5E)	4	4	8	8	8	8	8	8
	Integrated LPDDR5X (GB)	–	–	–	–	–	32	32	32
	Total DDR Bus Width	128	128	256	256	256	256	256	256
Processing System	Application Processing Unit	Dual-core Arm® Cortex®-A72, 48 KB/32 KB L1 Cache w/ parity & ECC; 1 MB L2 Cache w/ ECC							
	Real-Time Processing Unit	Dual-core Arm Cortex-R5F, 32 KB/32 KB L1 Cache, and 256 KB TCM w/ECC							
	Memory	256 KB On-Chip Memory w/ECC							
	Connectivity	Ethernet (x2); UART (x2); CAN-FD (x2); USB 2.0 (x1); SPI (x2); I2C (x2)							
Integrated Protocol IP	PCIe (PL PCIE5)	1x Gen5x4	1x Gen5x4	1x Gen5x4	1x Gen5x4	1x Gen5x4	1x Gen5x4	1x Gen5x4	1x Gen5x4
	PCIe® w/DMA & CXL® 3.1 (CPM6)	2x Gen6x8	2x Gen6x8	2x Gen6x8	2x Gen6x8	2x Gen6x8	2x Gen6x8	2x Gen6x8	2x Gen6x8
	GTM2 Transceivers	32	32	56	72	72	56	72	72
	100G Multirate Ethernet MAC	2	2	1	1	1	1	1	1
	600G Ethernet MAC	1	2	3	5	5	3	5	5
	High-Speed Crypto Engines	2	2	1	1	1	1	1	1
	LDPC Decoder	4	6	0	0	0	0	0	0
Ordering Information	Extended(1)	-1MSE, -1LSE, -2MSE, -2MLE, -2LSE, -2LLE		-1MSE, -1LSE, -2MSE, -2MLE, -2LSE, -2LLE, -3HSE					
	Industrial(1)	-1MSI, -1MLI, -1LSI, -1LLI, -2MSI, -2MLI, -2HSI		-1MSI, -1MLI, -1LSI, -1LLI, -2MSI, -2MLI					

1. In extended and industrial temperature grades, some ordering combinations can operate for a limited time with a junction temperature of 110°C. Timing parameters adhere to the same speed file at 110°C as they do below 110°C, regardless of operating voltage. Operation at 110°C Tj is limited to 3% of the device lifetime and can occur sequentially or at regular intervals as long as the total time does not exceed 3% of device lifetime.

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AMD Versal™ Premium Series Gen 2 – Packaging

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			2VP3102	2VP3202	2VP3402	2VP3502	2VP3602	2VP3422	2VP3522	2VP3622
Package	Package Dimensions (mm)	Ball Pitch (mm)	X5IO DDR Only, X5IO DDR+PL, X5IO PL Only HDIO, MIO GTM2 PL Only 56G (112G),[1, 2] GTM2 CPM6 32G (64G)[2, 3]							
NSVO1369	35 x 35	0.92	104, 224, 0 22, 52 16 (8), 8 (4)	104, 224, 0 22, 52 24 (12), 8 (4)						
VSVJ1760	40 x 40	0.92	136, 248, 32 22, 78 16 (12), 16 (16)	136, 248, 32 22, 78 16 (12), 16 (16)						
VSVA3014	58.5 x 46.5	0.92			136, 544, 32 0, 78 40 (20), 16 (16)	136, 544, 32 0, 78 48 (24), 16 (16)	136, 544, 32 0, 78 48 (24), 16 (16)			
VSVA3224	52.5 x 55	0.92			136, 632, 16 0, 78 16 (16), 16 (16)	136, 632, 16 0, 78 32 (24), 16 (16)	136, 632, 16 0, 78 32 (24), 16 (16)			
VSVC3340	55 x 55	0.92			104, 600, 32 0, 78 40 (40), 16 (16)	104, 600, 32 0, 78 56 (56), 16 (16)	104, 600, 32 0, 78 56 (56), 16 (16)			
VMVA3575	55 x 57.5	0.92						0, 0, 194 0, 78 40 (40), 16 (16)	0, 0, 194 0, 78 56 (56), 16 (16)	0, 0, 194 0, 78 56 (56), 16 (16)

1. For 128G data rate support, contact your local AMD sales representative.
2. All GTM2 PL Only can operate at 56G; the quantity that can operate up to 112G is shown in parentheses. All GTM2 CPM can operate at 32G; the quantity that can operate up to 64G is shown in parentheses.
3. GTM2 transceivers connected to CPM6 can also bypass CPM6 (using the GT Direct mode) and access PL to support select non-PCIe® protocols up to 32G NRZ (in -3 speedgrade) or 25G NRZ (in -2 speedgrade).

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AMD Versal™ Premium Series Gen 2 – Figures of Merit

			2VP3102	2VP3202	2VP3402	2VP3502	2VP3602	2VP3422	2VP3522	2VP3622
Programmable Logic	DSP Engine Peak Perf – INT8	TOPS	23.0	27.6	42.0	19.7	52.6	42.0	19.7	52.6
	DSP Engine Peak Perf – INT24	TOPS	7.7	9.2	14.0	6.6	17.5	14.0	6.6	17.5
	DSP Engine Peak Perf – CINT18	Complex TOPS	3.3	3.9	6.0	2.8	7.5	6.0	2.8	7.5
	DSP Engine Peak Perf – FP32	TFLOPS	5.4	6.4	9.8	4.6	12.3	9.8	4.6	12.3
	NoC Cross-sectional Bandwidth	Tb/s	1.1	1.1	2.2	2.2	2.2	2.2	2.2	2.2
Processing System	Arm® Cortex®-A72 Performance	DMIPs	19,516	19,516	19,516	19,516	19,516	19,516	19,516	19,516
	Arm Cortex-R5F Performance	DMIPs	2,672	2,672	2,672	2,672	2,672	2,672	2,672	2,672
Memory	Total Bandwidth - Block RAM	Tb/s	179	217	321	404	404	321	404	404
	Total Bandwidth – UltraRAM	Tb/s	31	38	54	69	69	54	69	69
	Total PL Memory Bandwidth	Tb/s	210	256	375	473	473	375	473	473
	DDR5 Memory Bandwidth	GB/s	102.4	102.4	204.8	204.8	204.8	0	0	0
	LPDDR5X Memory Bandwidth	GB/s	136.5	136.5	273.1	273.1	273.1	288.0	288.0	288.0
I/O	Transceiver Bandwidth	Tb/s	7.22	9.03	12.64	16.25	16.25	12.64	16.25	16.25
	Sensor I/O Bandwidth	Gb/s	1,260	1,260	2,988	2,988	2,988	2,988	2,988	2,988
Connectivity Throughput	PCIe® Throughput	GT/s	128	128	128	128	128	128	128	128
	Ethernet Throughput	Gb/s	800	1,400	1,900	3,100	3,100	1,900	3,100	3,100
	Crypto (AES-256) Throughput	Gb/s	800	800	400	400	400	400	400	400
Connectivity Ports	10G Ethernet Ports	#	8	8	4	4	4	4	4	4
	25G Ethernet Ports	#	8	8	4	4	4	4	4	4
	40G Ethernet Ports	#	2	2	1	1	1	1	1	1
	50G Ethernet Ports	#	4	4	2	2	2	2	2	2
	100G Ethernet Ports	#	8	14	19	31	31	19	31	31
	200G Ethernet Ports	#	3	6	9	15	15	9	15	15
	400G Ethernet Ports	#	1	2	3	5	5	3	5	5

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AMD Versal™ Portfolio Inter-Series Migration

Package Name	Footprint	Versal AI Edge Series							Versal AI Core Series						Versal Prime Series									Versal Premium Series											
		VE2002	VE2102	VE2202	VE2302	VE1752	VE2602	VE2802	VC1502	VC1702	VC1802	VC1902	VC2602	VC2802	VM1102	VM1302	VM1402	VM1502	VM1802	VM2202	VM2302	VM2502	VM2902	VP1002	VP1052	VP1102	VP1202	VP1402	VP1502	VP2502	VP1552	VP1702	VP1802	VP2802	VP1902
SFVA784	A784	■	■	■	■										■																				
NSVG1369	G1369					■			■	■																									
NSVH1369	H1369						■	■					■	■	■					■															
VSVA1596[1]	A1596[2]					■			■	■	■																								
VIVA1596[1]	A1596[2]										■	■																							
VSVD1760	D1760										■	■					■	■	■																
VFVF1760	F1760																				■	■	■	■	■	■	■	■							
VSVH1760	H1760						■	■					■	■																					
VSVA2197	A2197					■			■	■	■	■							■	■															

Versal™ Portfolio Migration Legend
■ Device
— Migration Path

Package Name	Footprint	Versal AI Edge Series Gen 2						Versal Prime Series Gen 2			
		2VE3304	2VE3358	2VE3504	2VE3558	2VE3804	2VE3858	2VM3358	2VM3558	2VM3654	2VM3858
SFVA1089	A1089	■	■					■			
SFVA1440	A1440[2]		■		■			■	■		
SSVA1440	A1440[2]	■	■	■	■						
SSVA2112	A2112			■	■	■	■		■	■	■

Notes:
1. VSVA1596 package dimensions are 37.5x37.5 mm, VIVA1596 package dimensions are 40x40 mm with 1.25 mm overhang.
2. Packages with the same last letter and number sequence, e.g., A1440, are footprint compatible with all other Versal devices with the same sequence.

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AMD Versal™ Device Ordering Information

Device Name					Device Attributes				Package Definition			
XC	2	V	E	3558	-1	M	S	E	S	B	V	A1440
Device Grade XC: Commercial XA: Automotive XQ: Defense	**Generation**[1] 2: Gen 2	**Architecture** Versal	**Series Name** E: AI Edge C: AI Core M: Prime P: Premium H: HBM R: RF	**Device Number** Digits 1-3: Value Identifier Digit 4: # of Primary Cores	**Speed Grade** -1: Slowest -2: Mid -3: Highest	**Voltage** L: Low M: Mid H: High	**Static Screen** S: Standard L: Low Static	**Temp Grade** E: 0 to 110°C[2] I: –40 to 110°C[2] Q: –40 to +125°C M: –55 to +125°C	**Ball Pitch** L: 1.0 mm V: 0.92 mm, w/LSC N: 0.92 mm, no LSC S: 0.8 mm J: 0.65 mm	**Lid** S: Lidless, w/Stiffener Ring F: Lidded B: Lidless, no Stiffener Ring H: Lidded Overhang I: Lidless, w/Stiffener Ring & Overhang M: Lidless, w/ Stiffener Ring, w/ Memory on Package	**RoHS6 Code** [3] V: Pb-free Ball Q: Eutectic Ball R: Ruggedized, Eutectic Ball	**Footprint**

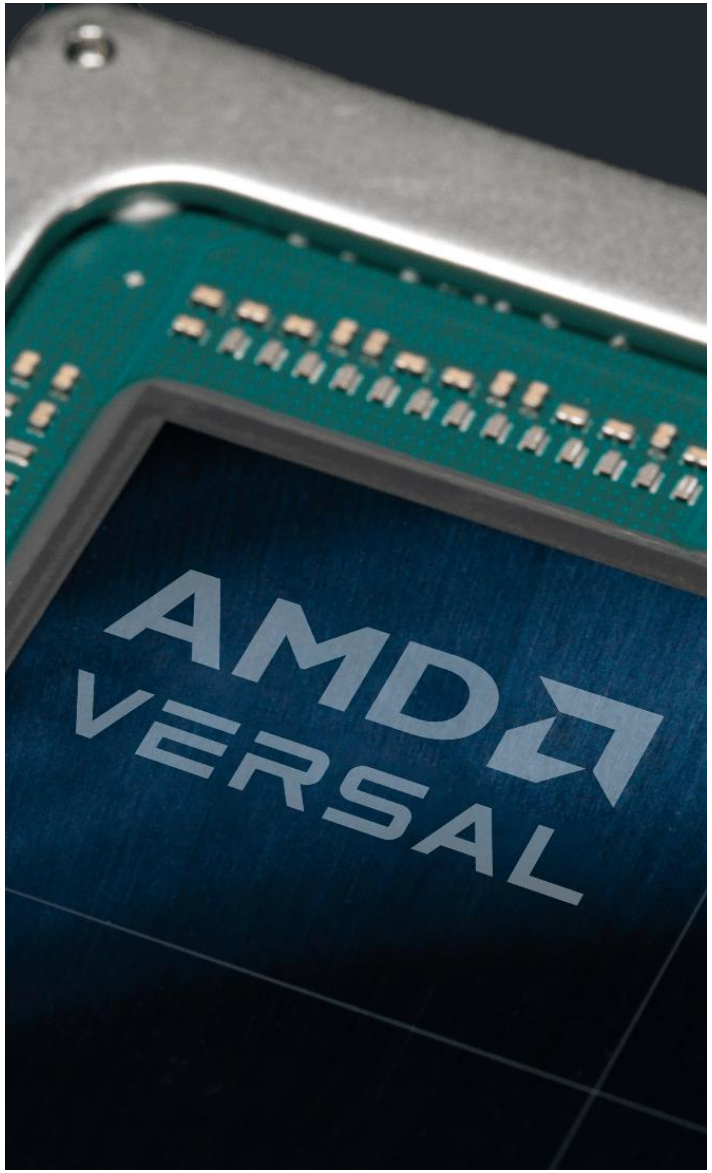
Note:

1. This character is only present in Versal AI Edge Series Gen 2, Prime Series Gen 2, and Premium Series Gen 2 devices.
2. Operation at 110°C Tj is limited to 3% of the device lifetime and can occur sequentially or at regular intervals as long as the total time does not exceed 3% of device lifetime—except -1E and -3E (standard 0–100°C).
3. All packages have Pb-free bumps.

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AMD Versal™ Adaptive SoC Portfolio



Prime Series	**Mid-Range Devices with Option for High-End Scalar Compute** • Gen 1: Broad range of capabilities incl. PCIe® Gen 5, DDR5/LPDDR5[1] • **Gen 2:** Adds up to 10X scalar compute[2], LPDDR5X, VCU	General-Purpose
Premium Series	**High-End Devices Maximizing Connectivity, Hard IP, & DSP** • Gen 1: 112G SerDes, PCIe Gen 5, DDR4, High-Speed Crypto, AIE • **Gen 2:** Adds 128G SerDes, PCIe Gen 6, CXL® 3.1, DDR5/LPDDR5X	General-Purpose
HBM Series	**Adds Integrated HBM Memory to Premium Series Capabilties** • 8, 16, or 32 GB of HBM2e per device • 6X memory bandwidth at up to 65% lower power[3]	Specialized
AI Edge Series	**End-to-End Acceleration for AI-Driven Embedded Systems** • Gen 1: PL for preprocessing, AIE-ML for high-perf. inference • **Gen 2:** Adds up to 10X scalar compute[2] for postprocessing, add'l FuSa	Specialized
AI Core Series	**High-Throughput DSP & AI in a Mid-Size Footprint** • AIE for strong DSP performance/watt & perf/area • AIE-ML for high-performance inference w/PCIe Gen 5, 100 GbE	Specialized
RF Series	**Integrated RF-ADC/RF-DACs w/New DSP Hard IP** • 16 GSPS RF-DACs, 8 GSPS or 32 GSPS RF-ADCs, AIE • FFT/iFFT, Channelizer, LDPC, Frac. Resampler, Polyphase Filters	Specialized

1. DDR5/LPDDR5 support is available in the VM2152 device. All other first-generation Versal Prime Series devices support DDR4/LPDDR4/LPDDR4X.
2. Pre-silicon estimated performance. See Endnotes VER-027.
3. See Endnotes VER-013.

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