



PRODUCT SUMMARY

Simplify, Accelerate, and Reduce the Cost of the Embedded Systems Development

STORAGE INTERFACES & FORM FACTORS

NVMe	USB
M.2	USB Module
E1.S	USB Key
U.2	
BGA SSD	SECURE DIGITAL
CFexpress	Secure Digital
	MicroSD
SATA	
2.5" & 1.8"	
M.2	OTHERS
mSATA	Compact Flash
Slim SATA	eMMC/UFS

MEMORY INTERFACES & FORM FACTORS

DDR5	DDR2	LPDDR4
DDR4	DDR	LPDDR5
DDR3	SDRAM	BGA μDIMM

VLP/ ULP/ Standard
SODIMM, UDIMM, RDIMM,

STORAGE KEY FEATURES

- Industrial Temp (-40°C to +85°C) and Extended Temp (-40°C to +105°C)
- Extended product life (10+years) beyond fast-moving industry changes
- Industry's widest range of capacities: 1GB-32TB
- Multiple architectures for varied performances and workloads, endurance and power
- Ultra-high endurance SLC/pSLC/3D-TLC with BiCS5
- Integrated power loss protection (PLP) with vtGuard
- Data protection with AES-256 Encryption and TCG Opal
- High Reliability, consistent performance, and low power
- SMART Interface for monitoring and control

MEMORY KEY FEATURES

- Extended -40°C to +95°C operating temp
- Extended product life (10+years) beyond fast-moving industry changes
- Industry's widest range of capacities: 1GB to 512GB with industrial-grade DRAM solutions
- Specialized high-capacity, small format DIMM solutions (VLP/ULP, mini-DIMM)
- Patented stacking technology / ruggedized designs
- Conformal coating, underfill, and 30μ gold finger options
- High Reliability, consistent performance and low power

Virtium Acquired Embedded Artists to Add Edge AI Computing and Connectivity Products



STORAGE AND MEMORY SOLUTIONS

Simplify, Accelerate, and Reduce the Cost of the Embedded Systems Development

Virtium Storage Portfolio (-40°C to +105°C)

	Industrial Boot/Embedded		Industrial Data	Enterprise Data
	Module	Chip-down	SSD	SSD
Form Factors	Small form factors like M.2, SD/μSD, eUSB, CFexpress, mSATA, SlimSATA, 1.8" SATA	BGA SSD, eMMC	U.2, E1.S, 2.5"	U.2, E1.S, 2.5"
Interface	PCIe Gen4, Gen3, SATA 6Gbps, SD 6, USB 3	PCIe Gen4, Gen3 eMMC 5.1	PCIe Gen4, Gen3 SATA 6Gbps	PCIe Gen5, Gen4 SATA 6Gbps
Capacity	2GB to 1.92TB capacities; M.2 2280 can achieve 3.84TB	BGA SSD: 80GB - 1TB eMMC: 8 - 64GB	PCIe: 1.92 - 7.68TB SATA: 8GB - 7.68TB	1.92 - 30.72TB
pSLC option > 10x endurance	Yes	Yes	Yes	No
Operating Temp	-40°C to +85°C	-40°C to +105°C	-40°C to +85°C	0°C to +70°C

Virtium Memory Portfolio (-40°C to +95°C)

	Modules				Chip-down			
Interface	DDR5	DDR4	DDR3	DDR2	DDR5	DDR4	LPDDR5/5x	LPDDR4/4x
Form Factors	RDIMM, ECC/Non-ECC UDIMM ECC/non-ECC SODIMM CAMM2 MR-DIMM	RDIMM ECC/Non-ECC UDIMM MINI-(R/U)DIMM SO-(R/U)DIMM	(R/U)DIMM MINI-(R/U)DIMM SO-(R/U)DIMM	(R/U)DIMM MINI-(R/U)DIMM SO-(R/U)DIMM	DRAM IC BGA μDIMM	DRAM IC BGA μDIMM	DRAM IC	DRAM IC
Density	RDIMM: 16-256GB UDIMM: 16-32GB SODIMM: 8-32GB	RDIMM: 4-64GB Others: 4-32GB	1-8GB All form factors	1-2GB All form factors	IC: 16Gb μDIMM: 16GB	IC: 4-16Gb μDIMM: 8-32GB	4-16GB	1-8GB
Speed Grade	Up to 5600MBps	Up to 3200MBps	Up to 1866Mbps	Up to 800 Mbps	4800Mbps	3200Mbps	Up to 9600Mbps	4266 Mbps
Screening	Most robust I-temp screening: 100% screening at high and low temp							



Product	BGA microDIMM	
Interface	DDR4	DDR5
Capacities	8, 16, 32GB	16GB
Form factor (mm)	Contact Virtium	Contact Virtium

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