

SMART MEMORY SOLUTIONS



LEADING EDGE
HIGH PERFORMANCE
MEMORY MODULES



SMART MODULAR TECHNOLOGIES

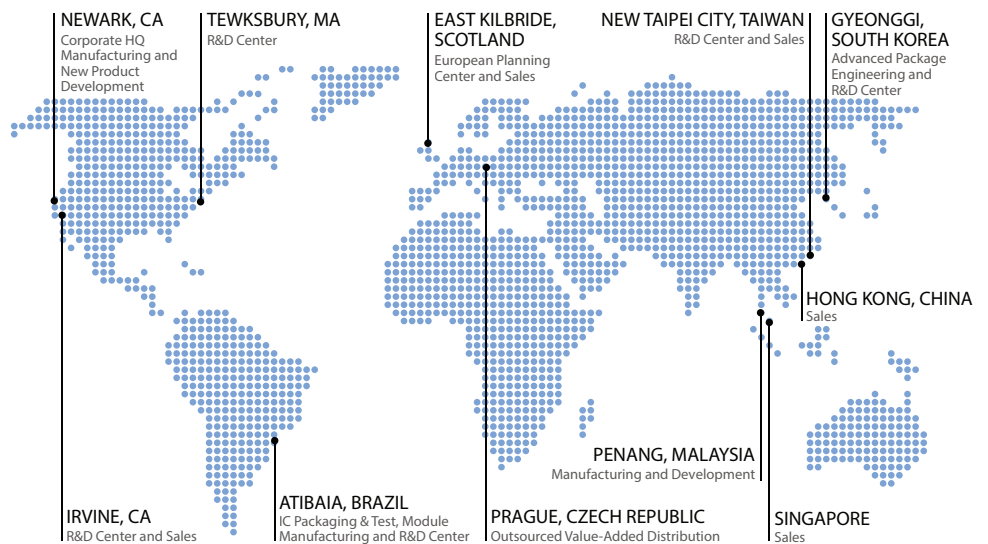
INDUSTRY EXPERIENCE
DESIGN EXPERTISE

SMART is a leading independent designer, manufacturer and supplier of specialty memory, storage and hybrid solutions to OEMs engaged in the computer, industrial, networking, telecommunications, aerospace and defense markets. Taking innovations from the design stage through manufacturing and delivery, SMART has developed a comprehensive memory product line that includes DRAM, SRAM, and Flash memory in various form factors. SMART's presence in the U.S., Europe, Asia, and Latin America enables it to provide its customers with proven expertise in international logistics, asset management, and supply-chain management worldwide.

SMART supports a wide variety of industry standard and custom DRAM Memory Modules. The DRAM technologies that are supported range from leading edge DDR4 to legacy FPM and EDO. The module form factors include standard height and very low profile DIMMs, SO-DIMMs, and Mini-DIMMs in registered, unbuffered, and ECC configurations.

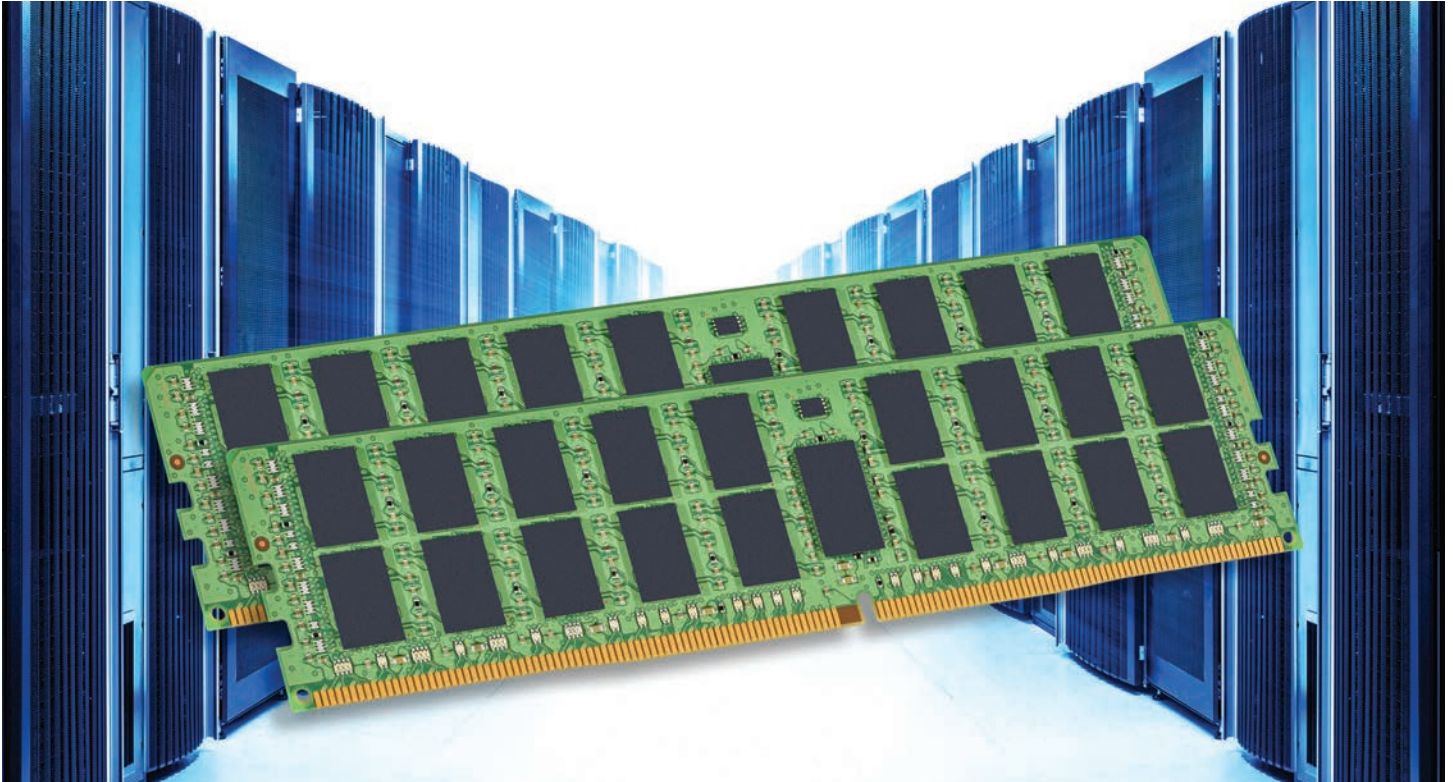
GLOBAL FOOTPRINT

DESIGN
MANUFACTURING
TEST
LOGISTICS
SALES



ENTERPRISE MEMORY

(Burn-In)



Why Enterprise Memory?

While improving quality and reducing costs might sound contradictory, SMART's Enterprise Memory helps OEMs achieve both these goals at once. Having failure rates fall consistently below 200 parts per million speaks directly to quality. And this quality, in turn, provides significant savings for OEM customers in field service costs and substantially decreases the downtime experienced by their end customers.

SMART's selection of Enterprise Memory modules are developed through a unique system-level test burn-in process. This service provides highly reliable memory modules for long-term service life in mission critical server and storage applications. By submitting DRAM modules to "key up-front" burn-in stresses on SMART developed equipment, only the best modules make their way through the manufacturing cycle. SMART's Enterprise Memory brings tremendous value and that's everyone's goal.


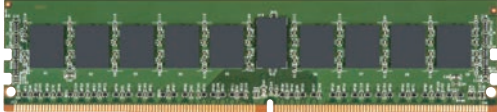

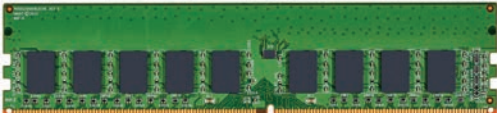

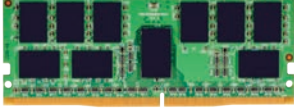

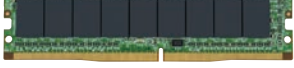
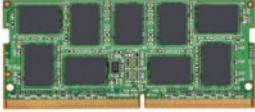
Features & Benefits

- Tested at an ambient temp up to -85C
- Proven low associated DPPM
- Lowers OEM costs with reduced servicing
- Runs on customized test software and boards to analyze flaws
- Improves OEM's product reputation for high reliability
- Versatility with SMART-built DIMMs or other vendor's DIMMs

Applications

- High performance server, storage and networking applications
- Mission critical systems or abusive field conditions where service is impractical
- Mission critical data centers

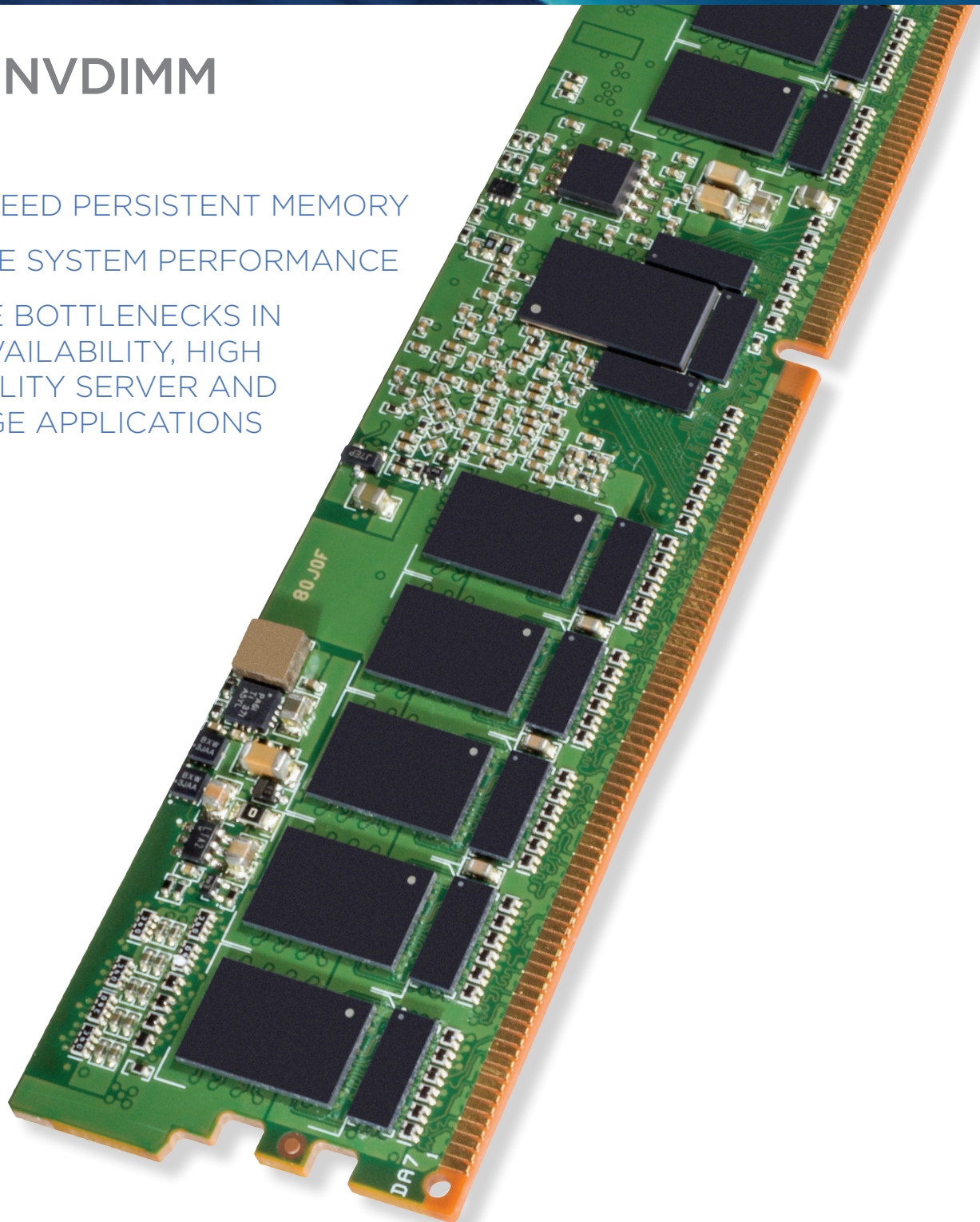
DDR4 DRAM MODULES

FORM FACTOR	DENSITY	PART NUMBER	DRAM	VLP OPTION
NVDIMM 	16GB	SH2047NR420472xx	2Gx4	
	8GB	SH1027NR410872xx	1GBx8	
	8GB	SH1027NR410472xx	1Gx4	
	4GB	SH5127NR451851xx	512Mx8	
RDIMM 	128GB	SH1637RD420492xx	2Gx4	
	64GB	SH8197RD420492xx	2Gx4	
	32GB	SH4097RD420472xx	2Gx4	•
	16GB	SH2047RD410851xx	2Gx4	•
VLP RDIMM 	16GB	SH2047RD410472xx	1Gx4	•
	8GB	SH1027RD410472xx	1Gx4	•
	8GB	SH1027RD451872xx	512Mx8	•
	4GB	SH5127RD451872xx	512Mx8	•
UDIMM 	16GB	SH2047UD410872xx	1Gx8	
	8GB	SH1027UD410851xx	1Gx8	
	8GB	SH1027UD451872xx	512Mx8	•
	4GB	SH5127UD451851xx	512Mx8	
LRDIMM 	64GB	SH8197LR420472xx	2Gx4	
	32GB	SH4097LR420472xx	2Gx4	
	32GB	SH4097LR410472xx	1Gx4	
	16GB	SH2047LR410451xx	1Gx4	
Mini RDIMM 	16GB	SH2047MR410872xx	1Gx8	•
VLP Mini RDIMM 	8GB	SH1027MR451872xx	512Mx8	•
Mini UDIMM 	16GB	SH2047MU410872xx	1Gx8	•
	8GB	SH1027MU451872xx	512Mx8	•
SODIMM 	16GB	SH2047SO410872xx	1Gx8	
	8GB	SH1027SO410872xx	1Gx8	
	8GB	SH1027SO451872xx	512Mx8	
	4GB	SH5127SO451872xx	512Mx8	

* Part number noted is that of highest density and speed available

DDR4 NVDIMM

- HIGH SPEED PERSISTENT MEMORY
- IMPROVE SYSTEM PERFORMANCE
- REDUCE BOTTLENECKS IN HIGH AVAILABILITY, HIGH RELIABILITY SERVER AND STORAGE APPLICATIONS



SMART's DDR4 NVDIMMs combine non-volatile memory functionality with the latest DDR4 DRAM technology to provide a persistent memory solution all while improving application performance and data integrity in server and storage environments.

SMART's DDR4-2133 NVDIMMs feature proprietary SafeStor™ technology, the engine which initiates backup and restore operations upon command from the host controller. SMART's NVDIMMs operate as a JEDEC standard DDR4 RDIMM during normal operation.

DDR3 DRAM MODULES

FORM FACTOR	DENSITY	PART NUMBER	DRAM	VLP OPTION
NVDIMM 	8GB	SH1027NV351816xx	512Mx8	•
	4GB	SH5127NR351893xx	512Mx8	
Mini NVDIMM 	2GB	SH2567MN325816xx	256Mx8	
RDIMM 	16GB	SH2047RD310438xx	1Gx4	•
	8GB	SH1027RV310416xx	1Gx4	•
	8GB	SH1027RV351216xx	512Mx4	•
	4GB	SH5127RD351238xx	512Mx4	•
	4GB	SH5127RV325816xx	256Mx8	•
	2GB	SH2567RV325816xx	256Mx8	•
	2GB	SH2567RD325693xx	256Mx4	•
UDIMM 	8GB	SH1027UV351816xx	512Mx8	•
	4GB	SH5127UV325816xx	256Mx8	•
	2GB	SH2567UV325816xx	256Mx8	•
Mini RDIMM 	8GB	SH1027MV351816xx	512Mx8	•
	2GB	SH2567MV325816xx	256Mx8	•
Mini UDIMM 	8GB	SH1027ML351816xx	512Mx8	•
	4GB	SH5127UV351816Hxxx	512Mx8	•
	4GB	SH5127ML325816xx	256Mx8	•
	2GB	SH2567ML325816xx	256Mx8	•
MIP 	2GB	SHI2566MP321616xx	256Mx16	
SODIMM 	8GB	SHI1026SV351816xx	512Mx8	
	4GB	SH5126SV351816xx	512Mx8	
	4GB	SHI5126SO325816xx	256Mx8	
	2GB	SH2566SV325816xx	256Mx8	
	1GB	SHI286SV312816xx	128Mx8	
SORDIMM 	8GB	SH1027SL351816xx	512Mx8	
	4GB	SH5127SL351816xx	512Mx8	
	4GB	SH5127SL325816xx	256Mx8	
	2GB	SH2567SL325816xx	256Mx8	
SODUDIMM 	8GB	SH1027SV351816xx	512Mx8	
	4GB	SH5127SV325816xx	256Mx8	
	4GB	SH5127SV351816xxx	512Mx8	
	2GB	SH2567SV325816xx	256Mx8	
XRDIMM 	2GB	SH2567XR312816xx	128Mx8	

* Part number noted is that of highest density and speed available

DDR4 VALUE MEMORY MODULES

FORM FACTOR	DENSITY	PART NUMBER	DRAM
RDIMM	64GB	SH8197RD420471-xx	2Gx4
	64GB	SH8197RD420492-xx	2Gx4
	32GB	SH4097RD420451-xx	2Gx4
	8GB	SH1027RD451851-xx	512Mx8

FORM FACTOR	DENSITY	PART NUMBER	DRAM
VLP RDIMM	16GB	SH2047RD410872-xx	1Gx8
	16GB	SH2047RD410451-xx	1Gx4

FORM FACTOR	DENSITY	PART NUMBER	DRAM
NON-ECC UDIMM	16GB	SH2046UD410851-xx	1Gx8
	16GB	SH2047UD410872-xx	1Gx8
	8GB	SH1026UD351816-xx	512Mx8
	8GB	SH1026UD351838-xx	512Mx8

FORM FACTOR	DENSITY	PART NUMBER	DRAM
ECC UDIMM	16GB	SH2047UD410851-xx	1Gx8
	8GB	SH1027UD451872-xx	512Mx8

FORM FACTOR	DENSITY	PART NUMBER	DRAM
NON-ECC SODIMM	16GB	SH2046SO410851-xx	1Gx8
	16GB	SH2046SO410872-xx	1Gx8
	8GB	SH1026SV351816-xx	512Mx8

FORM FACTOR	DENSITY	PART NUMBER	DRAM
ECC SODIMM	16GB	SH2047SO410851-xx	1Gx8
	16GB	SH2047SO410872-xx	1Gx8

FORM FACTOR	DENSITY	PART NUMBER	DRAM
LRDIMM	64GB	SH8197LR420451-xx	2Gx4
	64GB	SH8197LR420472-xx	2Gx4

DDR3 VALUE MEMORY MODULES

FORM FACTOR	DENSITY	PART NUMBER	DRAM
RDIMM	64GB	SH8197RD420471-xx	2Gx4
	32GB	SH4097RV310416-xx	1Gx4
	16GB	SH2047RD310438-xx	1Gx4

FORM FACTOR	DENSITY	PART NUMBER	DRAM
VLP RDIMM	16GB	SH2047RV310416-xx	1Gx4

FORM FACTOR	DENSITY	PART NUMBER	DRAM
LRDIMM	64GB	SH8197LR310416-xx	1Gx4
	32GB	SH4097LR310438-xx	1Gx4

* Part number noted is that of highest density and speed available

CUSTOM PRODUCTS

SMART has a long history of partnering with customers to satisfy their specific design needs. With extensive industry and design expertise and global manufacturing capabilities, SMART offers a unique combination of advantages that can support customers' unique designs from conception to manufacturing and test. This allows SMART to efficiently and reliably tailor products to meet particular customer needs. For more information, please email customers@smartm.com.

SERVICES

SMART built its reputation by providing proven technology and quality products to the most demanding OEMs around the world. SMART backs these products with outstanding services and expertise in design, manufacturing, test, and logistical support. OEMs can be confident that SMART products will perform to the highest degree of reliability and compatibility, as well as meet all system requirements and OEM specifications. More information on SMART can be obtained at www.smartm.com.

Key Competitive Advantages

- Inventory management of volatile commodity parts
- Established strategic alliances with major semiconductor manufacturers
- Broad custom design and packaging capabilities
- Value-added engineering
- Custom testing capabilities
- Comprehensive pre- and post-sale technical support
- Conformal coating, stacking and component underfill for enhanced ruggedization

SMART Modular Technologies excels in designing, manufacturing, testing, and rapidly delivering both standard and custom modular technologies to OEMs around the world.



Design

SMART views design as the customer's path to market advantage. By working in partnership with its customers, SMART is able to deliver the most technically advanced products available.



Test

SMART's test procedures are designed to enable customers to be confident in dock-to-stock operation. Formalized, precise operational controls, SPC, and strong quality audit procedures allow SMART's OEM customers to eliminate incoming test with confidence. SMART's Enterprise Grade test option provides unmatched reliability.



Manufacturing

SMART offers localized, cost-efficient manufacturing services from consigned to turnkey manufacturing, all backed by 100% test using the industry's most advanced testing equipment.



Logistics

SMART sets itself apart from the competition through logistic services tailored to meet specific customers' needs. Services offered include procurement, inventory control, retail and bulk packaging, and drop-ship delivery.

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