



# VLP and ULP Memory for Blades

Reliable, Trusted, Proven



## What are Blades?

Blade servers are stripped-down server computers with a modular design optimized to minimize space and power. Blade servers fit inside a blade enclosure that hold multiple blade servers. Together, blades and the blade enclosure form a blade system. Blade servers are for variety of applications including networking, storage and computing. ATCA (Advanced Telecommunications Computing Architecture) standard blades and storage blades (pictured below) are for highly reliable embedded computing and storage applications and require a maximum amount of high density VLP or ULP modules.

## Application Examples



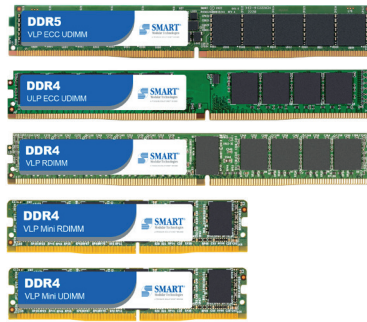
Storage Blade



Networking Blades

## Why VLP (Very Low Profile) and ULP (Ultra Low Profile) Memory for Blades

- VLP and ULP memory modules allow vertical placement of DIMM sockets in blade applications to save space
- VLP and ULP memory modules help maximize system density and performance
- VLP and ULP memory modules help maximize air flow and cooling in densely packed blade systems and blade enclosures



DDR5 Module Type	Densities Supported	Module Height (mm)
VLP RDIMM	16GB to 64GB	18.75
VLP ECC UDIMM	16GB to 64GB	18.75

DDR4 Module Type	Densities Supported	Module Height (mm)
VLP RDIMM	8GB to 64GB	18.75
ULP ECC UDIMM	8GB to 32GB	17.78
VLP Mini-RDIMM	8GB to 32GB	18.75
ULP Mini-RDIMM	8GB to 32GB	17.78
VLP Mini-UDIMM	8GB to 32GB	18.75
VLP Mini-UDIMM	8GB to 32GB	17.78

## Support for Extreme Operating Conditions



Industrial Temperature



Anti-Sulfur Resistor



Conformal Coating



Underfill

For more information, please visit: [www.smartm.com](http://www.smartm.com)

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