

# Data Sheet

## FUJITSU PRIMERGY NVIDIA® Tesla® K80 GPU

PRIMERGY server meet requirements for HPC GPU clusters

With the ever-increasing demand for more computing performance, systems based on CPUs alone, can no longer keep up. The CPU-only systems can only get faster by adding thousands of individual computers – this method consumes too much power and makes supercomputers very expensive. A different strategy is parallel computing, and the HPC industry is moving toward a hybrid computing model, where Co-Processors and CPUs work together to perform general purpose computing tasks. As parallel processors, GPUs excel at tackling large amounts of similar data because the problem can be split into hundreds or thousands of pieces and calculated simultaneously.

### PRIMERGY NVIDIA® Tesla® K80 GPU

Through the application-acceleration cores per board, Tesla processors offload parallel computations from the CPU to dramatically accelerate the floating point calculation performance. By adding a Tesla processor, engineers, designers, and content creation professionals accelerate some of the most complex tools exponentially faster than by adding a second CPU.

Equipped with 24 GB of memory, the Tesla K80 GPU accelerator is ideal for the most demanding HPC and big data problem sets. It outperforms CPUs by up to 10 and includes a Tesla GPUBoost feature that enables power headroom to be converted into usercontrolled performance boost.



Main Features	Benefits
<ul style="list-style-type: none"> <li>■ K80 = 4,992 Cores</li> </ul>	<ul style="list-style-type: none"> <li>■ Tesla K80 delivers up to 8.74 teraflops of single-precision floating point performance and 2.91 teraflops double-precision floating point performance with GPUBoost</li> </ul>
<ul style="list-style-type: none"> <li>■ ECC Memory</li> </ul>	<ul style="list-style-type: none"> <li>■ Meets a critical requirement for computing accuracy and reliability in datacenters and supercomputing centers. Offers protection of data in memory to enhance data integrity and reliability for applications.</li> </ul>
<ul style="list-style-type: none"> <li>■ up to 24 GB of GDDR5 MEMORY per GPU</li> </ul>	<ul style="list-style-type: none"> <li>■ Maximizes performance and reduces data transfers by keeping larger data sets in local memory that is attached directly to the GPU.</li> </ul>
<ul style="list-style-type: none"> <li>■ Tesla GPUBoost</li> </ul>	<ul style="list-style-type: none"> <li>■ End-user can convert power headroom to higher clocks and achieve even greater acceleration for various HPC workloads on Tesla K80.</li> </ul>
<ul style="list-style-type: none"> <li>■ Asynchronous transfer with dual DMA engines</li> </ul>	<ul style="list-style-type: none"> <li>■ Turbocharges system performance by transferring data over the PCIe bus while the computing cores are crunching other data</li> </ul>

# Technical details

## Technical details

Brand name	NVIDIA® Tesla® K80
Card category	GPU computing card
Graphics cores	4,992 cores
Single Precision	up to: 5.6 teraflops (Base clock), 8.74 teraflops (GPUBoost clock)
Double Precision	to: 1.87 teraflops (Base clock), 2.91 teraflops (GPUBoost clock)
Graphics memory size	24 GB GDDR5 SDRAM
Graphics memory speed	2.5 GHz
Graphics memory interface	384-bit
Graphics memory bandwidth	480 GB/sec (240 GB/sec per GPU)
Slot	PCIe 3.0 x16
Formfactor	Full height (double slot density)
Max. number per system unit	2x in CX2570 M1
Operating system	RHEL 6.5 SLES 11 SP3
Graphics card notes	To be used for CPU acceleration in HPC environments, no graphic output

Order code	Brand name	Graphics cores	Graphics memory size
S26361-F2222-E80	NVIDIA® Tesla® K80	4,992 cores	24 GB GDDR5 with ECC
S26361-F2222-L80	NVIDIA® Tesla® K80	4,992 cores	24 GB GDDR5 with ECC

## Environmental

Power consumption	300 W
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## Compliance

Compliance notes	According to the corresponding system
Compliance link	<a href="http://globalsp.ts.fujitsu.com/sites/certificates">http://globalsp.ts.fujitsu.com/sites/certificates</a>

# More information

## Fujitsu OPTIMIZATION Services

In addition to Fujitsu with PRIMERGY NVIDIA® Tesla® K80 GPU, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

### Fujitsu Portfolio

Build on industry standards, Fujitsu offers a full portfolio of IT hardware and software products, services, solutions and cloud offering, ranging from clients to datacenter solutions and includes the broad stack of Business Solutions, as well as the full stack of Cloud offering. This allows customers to leverage from alternative sourcing and delivery models to increase their business agility and to improve their IT operation's reliability.

### Computing Products

[www.fujitsu.com/global/products/computing/](http://www.fujitsu.com/global/products/computing/)

### Software

[www.fujitsu.com/software/](http://www.fujitsu.com/software/)

## More information

Learn more about Fujitsu PRIMERGY NVIDIA® Tesla® K80 GPU, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website. [www.fujitsu.com/fts](http://www.fujitsu.com/fts)

## Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment. Using our global know-how, we aim to contribute to the creation of a sustainable environment for future generations through IT. Please find further information at <http://www.fujitsu.com/global/about/environment>



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