

## Use Case Data Center



# Eaton Provides Cloud Computing & Data Center Reliability for the Enterprise

Ask almost any consumer, enterprise or even small business where they store their files and data, and they'll most likely tell you, "On the server" or "On the cloud." As computing power demands increase, and the adoption of social networking, cloud, and IoT progresses, the need for "always on," reliable storage is critical for everyone. OEMs are developing more efficient and powerful servers that can keep up with the speed of these fast-paced technologies as the global user base grows. The challenge isn't just to create the server to store the data, it's also to keep the server running at all times to avoid any data loss or emergencies for customers, even during a power outage. A power drop from milliseconds to 10 seconds can cause a 2- to 4-hour power outage and cost millions of dollars.

Eaton's products – specifically the TV supercapacitors, CC12H fuses, and FP inductors – help keep data centers in operation without the loss of data or damage to equipment caused

by power quality problems. This immediate backup is critical to prevent equipment failure and protect irreplaceable data, allowing the system to ride through power peaks and valleys and protect operations until a longer-term backup solution is in place or data can be moved to a different center.

### TV Supercapacitors

Flash servers are used as high performance, high transaction rate data storage. As these servers run critical transactions, data can not be lost due to a power glitch. Supercapacitors provide local power backup in case of an outage or dropout. TV supercapacitors provide increased energy to allow cache memories up to 50% larger which directly increase performance.

### CC12H Fuses

As computing power and speeds increase, higher currents are needed in increasingly smaller systems to meet this demand. Traditional Voltage Regulator Modules (VRM) used

on servers required two 15 A fuses in parallel (non-optimal arrangement) to provide short circuit protection. The CC12H product line expanded to 30 A to provide the proper current protection in a single (preferred arrangement), smaller device providing reliable overcurrent protection while reducing part count and PCB space. In addition to the higher current ratings available for the higher power VRM circuits, the full range of current values within the CC12H family allows OEMs to protect other circuits within the server power supply with the same reliable protection correctly sized for smaller nominal currents.

### FP Inductors

Server rooms can get very hot. Eaton FP family high-current inductors deliver the higher operating temperature and higher frequency requirements needed to obtain higher efficiency. These inductors offer the necessary scalability for frequency, DC resistance, inductance, current handling

and footprint. The advanced construction and gapping design delivers improved efficiency at low and high current loads with tighter DCR tolerances for the highest current stability per phase. The low DC Resistance (DCR) allows more current handling capability.

As organizations expand to include cloud computing, virtualization and software-defined server technology, the need for sustainable, datacenters increase substantially. Eaton's products provide vital technology that protects against data and productivity loss, equipment efficiency and drives server performance making them an ideal, reliable solution for applications in cloud computing and mission critical data centers.

Learn how Eaton's supercapacitor module provide backup power to the entire data center (Link to XLM UC)

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