



POWER STAMP ALLIANCE

The Power Stamp Alliance has defined a standard product footprint and functions that provide a multiple-sourced, standard modular board-mounted solution for single-stage power conversion from 48Vin to low voltage, high current applications.

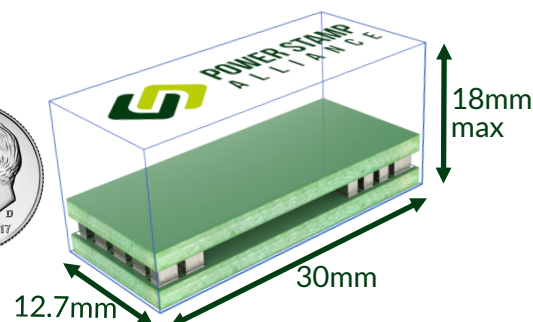


Greater than 1000A peak load

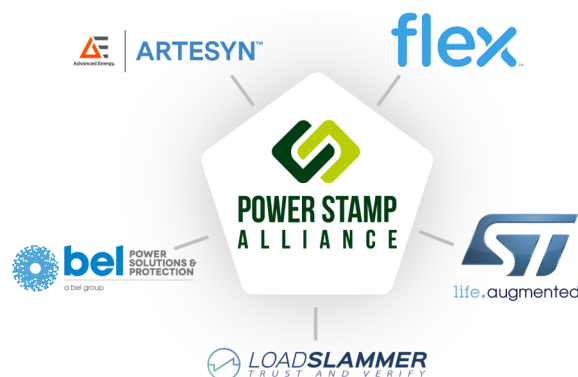
These 48V direct conversion DC-DC modules - or 'power stamps' - primarily target devices being used in large data centers, high performance computing (HPC) and supercomputing applications (e.g. ASIC, FPGA, GP-GPU, CPU).

48V single stage power conversion offers HPC, supercomputing and data center companies a range of business and technical benefits.

- ▶ Significant reduction in PCB real estate compared with other design approaches
- ▶ 100 Amp-pk rated current per power stamp
- ▶ Multiple-sourced standard footprint units ('power stamps')
- ▶ Future-proof: a scalability roadmap that expands the number of cells up to 12 modules.
- ▶ Energy proportional: the units are designed to automatically optimize to the load required to maintain optimal efficiency
- ▶ Mechanically and electrically dimensioned to meet the demand of high performance computing and supercomputing applications
- ▶ Easy to implement dynamic response
- ▶ Fully digitally controlled solution on the secondary side
- ▶ Stable working solution – proven with a reference design for:
 - ▷ 1000A ASIC (12 Stamp)
 - ▷ AVS compatibility
 - ▷ Intel VR13 Skylake & Intel VR13-HC Ice Lake
 - ▷ With roadmap to future requirements
- ▶ Provides ease of isolation
- ▶ The main stamp and satellite stamps share the same powertrain footprint
- ▶ Common shared resources that assist application design including unified specifications, CAD-package and GUI.
- ▶ Members have high volume manufacturing capability with industry standard processes and components.
- ▶ Consistent, standardized and repeatable load testing methodology and tools significantly reduce integration and validation time.



Power Stamp Alliance members are all experts in power conversion for high performance computing and supercomputing. The Members are (in alphabetical order) Advanced Energy, Bel Power Solutions, Flex, LoadSlammer and ST Microelectronics.

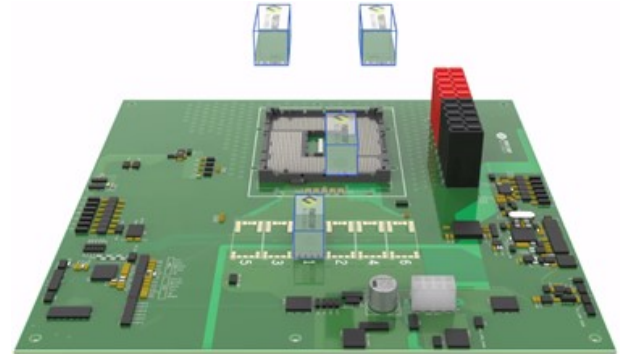


www.powerstamp.org

Single-stage power conversion from 48Vin to low voltage, high current applications, greater than 1000A peak load.

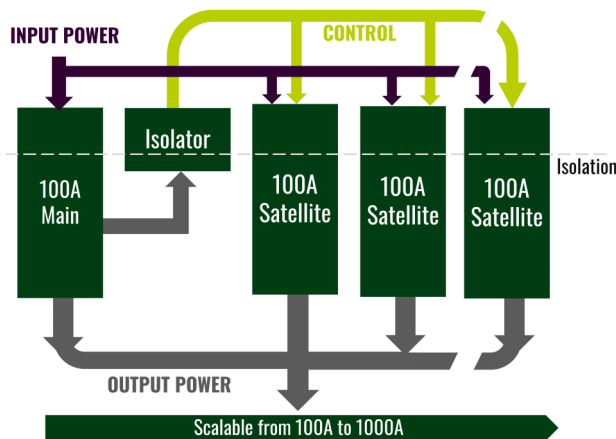
Processor architectures being addressed by the Power Stamp Alliance include ASICs, AI accelerators, FPGAs, GP-GPUs, ASSPs, CPUs, and network processors moving to lower geometry, such as 3nm technology; and devices using the PMBus AVS protocol or SVID protocol.

- ▶ Step and repeat stamps from 100A up to 1000A
- ▶ Multi-source supplier ecosystem
- ▶ Plug and play solution
- ▶ Supports highest power density power architecture
- ▶ Phase shed and phase add-for
 - ▷ Most efficient power conversion
 - ▷ Fast transient load support
- ▶ PSA resources
 - ▷ Common unified specifications
 - ▷ Common CAD files for layout
 - ▷ Common GUI for development
- ▶ Up to 30% saving in development time by using LoadSlammer testing tools and methodology



To help you evaluate Power Stamp Alliance member products, we have developed reference design boards designed to accept any PSA power stamp.

Please contact a PSA member for more information.



The electrical concept of power stamps uses the principle of a discrete or main stamp unit, or a controller stamp, controlling a number of satellite stamp units that combine to achieve greater than 1000 amps peak load.

To learn more about our members and how Power Stamps can benefit your supercomputing applications, please visit www.powerstamp.org



**POWER STAMP
ALLIANCE**