

Power Supplies

1200W full brick 200-425V input DC-DC modules are suitable for high voltage distributed power systems

November 30, 2022

TDK Corporation (TSE:6762) announces the introduction of the TDK-Lambda brand PH1200A280 full brick DC-DC converters. Rated at 1200W with an input of 200 to 425Vdc, the modules deliver isolated, regulated 12V, 24V, 28V, 36V and 48V outputs. The converters are very suitable for 380Vdc input distributed power systems using non-isolated AC-DC power supplies. Other applications include semiconductor fabrication, communication systems, test and measurement and custom power supplies utilizing a power module-based solution.

The PH1200A280 is packaged in the industry standard full brick footprint, measuring 116.8mm in length, 61mm wide and 12.7mm high (4.6 x 2.4 x 0.5 inches) enabling low profile designs. The modules can operate reliably in ambient temperatures from -40 °C to 85°C and baseplate temperatures from -40 °C up to 100°C. With efficiencies of up to 94% less internal waste heat is generated, simplifying cooling using either an optional heatsink or conduction into a cold plate.

Standard features include remote sense, remote on/off, inverter good signal and a 10 to 14V auxiliary voltage. Up to 11 modules may be connected in parallel with current sharing to provide additional power and an internal ORing FET is provided for redundant operation. The PH1200A280 has wide range output adjustment of -40% to +20% from nominal using the trim terminal for non-standard voltages.

The input and output isolation is 3,000Vac, input to baseplate 2,500Vac and the output to ground is 500Vac. Safety certification is to the IEC/EN/CSA/UL 62368-1 standard and has CE / UKCA markings to the Low Voltage and RoHS Directives. With external circuitry the PH1200A280 will meet radiated and conducted emissions and comply with the IEC 61000-4 immunity standards.

Main applications

- 380Vdc input distributed power systems using non-isolated AC-DC power supplies, semiconductor fabrication, communication systems, test and measurement and custom power supplies utilizing a power module-based solution.

Main features and benefits

- Wide range 200 to 425Vdc input and -40% to +20% output adjustment
- Up to 94% efficient
- Compact full brick package (116.8 x 61 x 12.7mm)
- Up to 100°C rated baseplate temperature

- Conduction cooled via baseplate
- Parallel function with internal ORing FET

Key data

Model		PH1200A280
Input voltage range	Vdc	200 to 425
Output voltages	Vdc	12, 24, 28, 36 and 48
Maximum output power	W	1,200
Efficiency	%	Up to 94
Isolation	Vac	Input to output 3,000, input to ground 2,500, output to ground 500
Size (W x L x H)	mm	61 x 116.8 x 12.7
Safety certification		IEC/EN/CSA/UL 62368-1

About TDK Corporation

TDK Corporation is a world leader in electronic solutions for the smart society based in Tokyo, Japan. Built on a foundation of material sciences mastery, TDK welcomes societal transformation by resolutely remaining at the forefront of technological evolution and deliberately “Attracting Tomorrow.” It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK’s comprehensive, innovation-driven portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in automotive, industrial and consumer electronics, and information and communication technology. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2022, TDK posted total sales of USD 15.6 billion and employed about 117,000 people worldwide.

About TDK-Lambda Corporation

TDK-Lambda Corporation is a trusted, innovative leader and global supplier of highly reliable power conversion products for industrial and medical equipment worldwide.

TDK-Lambda Corporation is aligned for fast responses to any customer need with R&D, manufacturing, sales and service locations in five key geographic regions, namely Japan, EMEA, Americas, China and ASEAN.

For more details, please pay a visit to: www.jp.lambda.tdk.com/en/

Further information on the products can be found under

https://product.tdk.com/en/search/power/switching-power/dc-dc-converter/tec_data/ps_pm_ph_a

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