

Power Supplies

1.5 to 10W DC-DC converter series now available with a two-sided board coating option for harsh industrial applications

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TDK Corporation (TSE:6762) announces the introduction of two additional options to the TDK-Lambda brand CCG series of 1.5W to 10W isolated DC-DC converters. The newly-available two-sided board coating provides extra protection for use in harsh environments, including rail and industrial applications. Also introduced is a larger, 40-piece tray size, providing easier placement of the surface mount models.

The series comprises 144 voltage and current combinations with 3.3V, 5V, 12V, 15V, and dual +/-12V and +/-15V outputs. The dual output models can also be configured to supply single 24V and 30V outputs. All models can operate from a wide range of 4.5 to 18V, 9 to 36V, or 18 to 76Vdc inputs to support operation from 5V, 12V, 24V, and 48V DC power sources. The 4:1 input range assists inventory reduction programs and procurement management, with one part number covering two nominal input voltages.

The 1.5W and 3W units measure 15.7 x 10.4mm (L x W), with the 6W and 10W models measuring 19 x 12.4mm (L x W). The plastic case is not encapsulated, avoiding quality risks associated with silicone potting compounds during reflow soldering.

Using the trim function, single output models can be adjusted down to -5 and up to +10% of nominal to compensate for printed circuit board voltage drops. Overcurrent protection and remote on/off are standard on all models. The on/off function can also be used to put the converters into stand-by mode. This reduces the off-load power consumption to less than 0.1W, extending the time between battery charges on portable equipment.

The CCG series can operate in ambient temperatures of -40 up to +100°C (model dependent) using convection or forced air cooling. Input to output isolation is 1,500Vdc. The models are certified to IEC/UL/CSA/EN 62368-1 safety standards with the CE and UKCA marks for the Low Voltage and RoHS Directives.

Further information on the products can be found at [CCG 15-30W Series Datasheet](#)

Main applications

- Rail rolling stock and trackside equipment, robotics, data and telecommunications, test, measurement, harsh environment process control, broadcast, and battery powered equipment

Main features and benefits

- Two-sided board coating
- Wide 4:1 input ranges
- Space-saving package sizes
- Certified to IEC 62368-1

- Reduced derating at high ambient temperatures
- No silicone potting

Key data

| Model | | CCG1R5 and CCG3 | CCG6 and CCG10 |
|-------------------------------|-----|---|------------------|
| Input voltage ranges | Vdc | 4.5 to 18, 9 to 36, or 18 to 76 | |
| Output voltages | Vdc | 3.3, 5, 12, 15, +/-12, +/-15 (dual models can operate as 24 or 30V) | |
| Output power levels | W | 1.5 to 3 | 6 to 10 |
| Safety certifications | - | IEC/UL/CSA/EN 62368-1 with CE and UKCA Marks | |
| Size (L x W x H) (SMD option) | mm | 15.7 x 10.4 x 11.8 | 19 x 12.4 x 11.5 |

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 2024, TDK posted total sales of USD 14.6 billion and employed about 101,000 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/

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