

EMC components

TDK offers industry's highest rated current multilayer chip bead for automotive power supply lines

- The industry's highest* rated current of 12A with dimensions of 2.5 x 2.0 mm (L x W)
- The operating temperature range is from -55°C to + 125°C
- Compliant with AEC-Q200 Rev D

February 21, 2023

TDK Corporation (TSE: 6762) has announced the introduction of its new MPZ2520SPH Series multilayer chip bead for automotive power supply lines. Rated at 12A and measuring only 2.5 x 2.0 x 0.85mm (L x W x H), it is not only the highest rated current bead, but also compact. Mass production began in February 2023.

The high-performance chip bead is for automotive EMC components and achieves a rated current of 12A despite its small size. Currently, supporting large currents requires either much larger chip beads measuring at least 3.2 x 2.5mm (L x W) or using multiple chip beads of less than 12A in a parallel configuration. Using a single MPZ2520SPH Series instead saves mounting space. Furthermore, the serial configuration of a single product helps stabilize the applied current. TDK's original pattern configuration and the use of optimum materials achieve the highest rated current in the industry in a compact size.

Recent years have seen a growing need for chip beads with high current capability for use in applications such as powertrain systems for electric vehicles. A similar need exists in industrial machinery and in the consumer sector, and TDK also began mass production of chip beads using the same high current specification for these fields.

TDK offers a diverse portfolio of chip beads for a range of applications, including signal circuits. Our lineup includes the KPZ series of automotive application chip beads that can be used in environments up to 150°C. TDK will continue to develop comprehensive EMC components and services in response to the needs of customers.

*Source: TDK, as of February 2023

Main applications

- Powertrains, Car multimedia (telematics), Various ECUs

Main features and benefits

- The industry's highest* rated current of 12A with dimensions of 2.5 x 2.0 mm (L x W)
- The operating temperature range is from -55°C to + 125°C
- Compliant with AEC-Q200 Rev D

Key data

Type	impedance [Ω]at100MHz	DC resistance [mΩ]max.	Rated current [A]at85°C	Rated current [A]at125 °C
MPZ2520SPH070ATD25	7.0±3	1.25	12	10

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.

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