

Inductors

TDK extends AEC-Q200 qualified SMD alloy powder choke series ERU27M for rated currents up to 48 A

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TDK Corporation (TSE:6762) has extended its ERU27M series of SMD high current flat wire inductors consisting of an isolated alloy powder core and flat wire helical winding. As power densities and currents in automotive and industrial applications continue to increase, this new series meets these requirements by using an alloy powder core material that exhibits a softer saturation characteristic than the core material used previously.

Designed for rated currents from 36 A to 48 A, these surface-mountable components cover a range of inductance values from 2.3 μH to 8.5 μH . DC resistances are as low as 0.68 m Ω to 1.66 m Ω . Thanks to the flat wire winding, the components have very compact dimensions of only 27.1 x 25.55 mm, and the height ranges from 14.1 mm to 16.4 mm. The inductors are designed for operating temperatures from -40 °C to +150 °C.

With this magnetically shielded and robust construction with a third pin that is not electrically connected, these 4 new AEC-Q200-qualified energy storage chokes can be used in DC-DC converters, VRM modules, and POL converters especially in the automotive sector, but also in solar converters.

Besides the established and now enhanced standard portfolio, TDK Electronics can support customers in realizing space and cost-optimized solutions by changing certain production parameters. Additionally, fully customized designs are also possible.

To become familiar with the different models of this series, TDK provides a sample kit for the ERU27M chokes (B82579X0027). It contains four of each of the four variants.

Main applications

Energy storage chokes for

- DC-DC converters
- VRM modules
- POL converters
- Solar converters

Main features and benefits

- High rated current up to 48 A
- Extremely low DC resistance down to 0.68 m Ω
- Very low profile and small footprint
- Insulating alloy powder core
- Magnetically shielded
- Third pin that is not electrically connected for improved mechanical reliability
- Surface-mountable
- Qualified to AEC-Q200

Ordering Code	Internal code	Rated inductance L_R [μ H]	Rated current I_{temp} [A]	DC Resistance R_{DC} [m Ω]	Height [mm]
ERU27M-2R3L	B82579A1232A027	2.3	48	0.68	14.1
ERU27M-3R9L	B82579A1392A027	3.9	46	0.88	15.5
ERU27M-6R2L	B82579A1622A027	6.2	37	1.39	15.2
ERU27M-8R5L	B82579A1852A027	8.5	36	1.66	16.4

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.

You can download this text and associated images from www.tdk-electronics.tdk.com/en/240822
Further information on the products can be found at www.tdk-electronics.tdk.com/en/eru_chokes

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