

Thermistors

TDK offers Pb-free NTC thermistors for a wide range of automotive and industrial applications

February 5, 2025

TDK Corporation (TSE:6762) announces the L862 (B57862L) NTC thermistors with bendable wires and the L871 (B57871L) lead spacing NTC thermistors that can be used in a wide range of automotive and industrial applications. Both series are Pb-free and can measure temperatures between -40 °C and +155 °C with a tolerance of $\pm 1\%$ and $\pm 3\%$ respectively. At room temperature, their maximum power dissipation is 60 mW. Both series are available with different rated resistances between 1 k Ω and 100 k Ω and different R/T characteristics (see tables below and on the next page). After 10,000 h at +70 °C, the deviation of the resistance at room temperature R_{25} is less than 3%.

The sensor element of the L862 that is encapsulated with a black epoxy coating is just 2.6 x 6.5 mm (D x H) in size and has insulated leads of silver-plated nickel wire (AWG 30, \varnothing 0.25 mm). The total length of the sensor including the wires is 50 mm, with 6 mm stripped. While the dissipation factor δ_{th} of the sensor is 1.4 mW/K, its thermal cooling time constant τ_c is 14 s.

Also, the sensor element of the L871 is encapsulated with a black epoxy coating. It is just 2.8 x 6.0 mm (D x H) in size and has Cu-clad steel wires (\varnothing 0.4 mm) with a spacing of 2.5 mm. While the dissipation factor δ_{th} of the sensor is 3 mW/K, its thermal cooling time constant τ_c is 9 s.

Main applications

- Temperature measurement in a wide variety of automotive and industrial applications (e.g., battery packs, power banks, energy storage, drones)

Main features and benefits

- Short response time
- High measuring accuracy
- Different tolerances available

Ordering code	R_{25} [Ω]	No. of R/T characteristic	$B_{25/100}$ [K]
B57862L0102+000	1 k	1023	3930 $\pm 1\%$
B57862L0202+000	2 k	1038	3560 $\pm 1\%$
B57862L0502+000	5 k	8016	3988 $\pm 1\%$
B57862L0103+000	10 k	8016	3988 $\pm 1\%$
B57862L0104+000	100 k	2014	4540 $\pm 1\%$

L862 series (B57862L*) (+ = Resistance tolerance, F = $\pm 1\%$, H = $\pm 3\%$)

Ordering code	R ₂₅ [Ω]	No. of R/T characteristic	B _{25/100} [K]
B57871L0202+000	2 k	1038	3560 ±1%
B57871L0502+000	5 k	8016	3988 ±1%
B57871L0103+001	10 k	8016	3988 ±1%
B57871L0303+000	30 k	8018	3964 ±1%
B57871L0104+000	100 k	2014	4540 ±1%

L871 series (B57871L*) (+ = Resistance tolerance, F = ±1%, H = ±3%)

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/250205
Further information on the products can be found at www.tdk-electronics.tdk.com/en/ntc

Contacts for regional media

Region	Contact	Phone	Mail
Europe	Mr. R. HIGGELKE TDK Electronics AG Munich, Germany	+49 89 54020 1378	ralf.higgelke@tdk.com
North America	Ms. D. MARTIN TDK Electronics Inc. Fountain Hills, AZ, USA	+1 480 836 4104	debbie.martin@tdk.com
South America	Mr. C. DALL'AGNOL TDK Electronics do Brasil Ltda., Gravataí, Brazil	+55 51 3484 7158	candido.dallagnol@tdk.com
India	Mr. H. BAGHEL TDK India Private Limited Noida, India	+91 12 04 50 58 42	himalaya.baghel@tdk.com
Greater China	Ms. K. XU TDK (Shanghai) Electronics Ltd. Shanghai, China	+86 21 2219 1598	Kathy.Xu@tdk.com
Japan	Mr. Y. OSUGA TDK Corporation Tokyo, Japan	+813 6778 1055	TDK.PR@tdk.com