Temperature sensors

TDK announces new chip NTC thermistors for conductive adhesion mounting

- Multilayer chip NTC thermistors that can be mounted using conductive adhesion
- Capable of operating in high temperatures up to 150°C
- AEC-Q200 qualified, with proven reliability for automotive applications

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TDK Corporation (TSE:6762) announces the development of new chip NTC thermistors designed for conductive adhesion mounting, expanding TDK's NTCSP series product lineup. The chip NTC thermistors are used for temperature sensing and compensation, measuring without direct contact in automotive applications including ABS, inside the transmission or engine, and more. The new NTCSP series part numbers are available in 10 kΩ, 47 kΩ, and 100 kΩ types with dimensions of 1.0 × 0.5 mm and 1.6 × 0.8 mm.

Responding to the need for diversified mounting methods, the new chip NTC thermistors product adopts AgPd termination, which enables conductive adhesion mounting. They are optimally suited for applications where soldering is difficult.

With its wide operating temperature range, from -55°C to 150°C, the NTCSP series can be applied in various temperature measurement and compensation roles in low to high temperature ranges. They are highly reliable, certified by AEC-Q200, the global automotive standard for passive components.

TDK continuously aims to expand the lineup of NTCSP series products by increasing the number of chip sizes and thermistor characteristics, and widening operating temperature ranges to meet diverse application needs.

Glossary

- AEC-Q200: certification for passive components regarding the reliability of automotive electronic components standardized by the Automotive Electronics Council (AEC).
- AgPd: Silver palladium alloy

Main applications

- For temperature measurement and compensation applications occurring in wide temperature ranges
- Applications where solder connections are difficult in the mounting process
- Automotive applications (ABS, transmissions, engines, etc.)
- Air conditioner IPMs (Power MOS-FET)

Main features and benefits

- Enables conductive adhesion mounting
- Capable of operating in a wide temperature range from -55°C to 150°C
- Highly reliable AEC-Q200 certified product

Key data

External dimensions [mm]	Type	Resistance (25°C) [kΩ]	Resistance tolerance [%]	B constant (B25/50) [K]	B constant (B25/85) [K]	B constant tolerance [%]
1.0 x 0.5 x 0.5 (EIA0402)	NTCSP103JF103FT1S	10	1	3380	3435	1
	NTCSP104BF473FT1SX	47	1	4050	4114	1
	NTCSP104KF104FT1S	100	1	4419	4485	1
1.6 x 0.8 x 0.8 (EIA0603)	NTCSP163JF103FT1S	10	1	3380	3435	1
	NTCSP164BF473FT1SX	47	1	4050	4114	1
	NTCSP164KF104FT1S	100	1	4419	4485	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 2020, TDK posted total sales of USD 12.5 billion and employed about 107,000 people worldwide.

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https://www.tdk.com/corp/en/news_center/press/20201201_01.htm

Further information on the products can be found under
https://product.tdk.com/info/en/catalog/datasheets/503022/tpd_automotive_ntc-thermistor_ntcsp_en.pdf

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