

FL Vehicle AEC Q200 Thermistors – Sensing the Temperature

Willow Technologies Limited (www.willow.co.uk) introduces Amphenol's innovative new ultra-thin FL series **temperature sensors**. The **FL incorporates a miniature NTC thermistor chip into a low profile** package to meet new demands from the Automotive and Electric Vehicle markets, where sustainable energy is fast becoming key.

The FL temperature sensor's miniature NTC is packaged inside a flexible PCB, 3mm wide and 0.5mm in thickness. It is designed to meet the volume, cost and delivery expectations of Original Equipment Manufacturers.



The flexible PCB design is suitable for electrical connection by soldering or edge connection. Using an ultra low mass NTC thermistor and FFC package enables fast response. The thermal time constant, cooling in still air, is 7.6 seconds. The FL sensor has

high lifetime reliability and stability and is suitable for temperature measurement in rechargeable battery packs. The sensing-end of the package is protected with a conformal environmental coating.

The FL sensor is suitable for all low profile thermistor applications and is an ideal solution for measuring Electric Vehicle and Heavy Electric Vehicle battery pack cell surface temperature. It operates over -40°C to 125°C at zero dissipation and 0°C to 55°C at maximum dissipation (130mW), with a dissipation constant of 1.9mW/°C approx. Standard device resistance at 25°C is 10,000Ω ±3%, with a B-value (25/85°C) of 3936. Other nominal resistances, reference temperatures and B-values are available upon request, as are resistance-versus-temperature curves. The flexible PCB substrate is polyimide. Insulation resistance is 1,000 VDC at 25°C.

At the time of writing, initial FL sensor sample batches (engineering-build standard) are undergoing qualification testing based on automotive standard **AEC-Q200 Rev D**. Latest information may be obtained by calling Martin Pearce, of Willow Technologies Ltd on 01342 717102.

Editor Information

Founded in 1989, Willow Technologies is located in Copthorne, West Sussex in the UK. We provide electronic solutions to customers by designing, manufacturing and supplying components and systems globally to the electrical and electronic marketplace. Specialists in switching, sensing, resistive and hermetic seal solutions we have a wide portfolio of sensing technologies and over 100 years of application experience. Our in-house engineering capability and rapid prototyping facility for custom parts enable us to develop products to match specific application requirements. Willow is ISO9001:2000 registered.

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