

Sensor Products System Tests Heat Sink Performance

Madison, NJ — The new Tactilus[®] heat-sink analysis system by Sensor Products Inc. enables engineers to quickly and precisely test and corect surface contact and pressure distribution between the heat sink and its

source. Even a slight warping of the heat exchange structure or reduction in surface contact area can have a profound effect on cooling system efficacy. If the pressure distribution is not uniform, heat conduction will be low, and the electronics may overheat.

With this new product, engineers can visualize actual contact forces and pressure distribution data on the circuit board components. As the mounting screws between the CPU and the heat sink are torqued, it maps and meas-

ures the changing pressure distribution between the mating surfaces and displays it through its software. The heat sink interface can be tested, manipulated, and repositioned in real-time, speeding the trial-anderror process and eliminating the need for additional assembly. Tactilus[®] also provides the pressure data needed for FEA simulation predictions.

Unlike conventional transducers, the Tactilus[®] sensor is flexible and only 0.015-in. (0.38mm) thick, allowing it to be placed between the CPU and heat sink without affecting the assembly. The sensor pad has 625 resistive sensing points arrayed on a 25 x 25 grid. The total sensing area is 2 x 2-in. (50.8 x 50.8mm). The scan speed is up to 1.000Hz, and the operating pressure range is 0 to 100 psi (0 to 7kg/cm²). Tactilus[®] collects and processes sensor data using powerful, easy-touse, Windows[®]-based software that: creates pressure vs. time graphs and histograms; performs 2D, 3D and 360° image rendering and region of



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interest scaling; displays maximum, minimum, and average pressures and does force integrations; and prepares reports to export to Excel, ASCII, or Access formats.

According to the company, the Tactilus[®] sensor system will endure hundreds of diagnostic uses on different heat sinks with consistent repeatability. It is highly resistant to electromagnetic noise, temperature, and humidity fluctuations. Accuracy is ± 10 percent; repeatability is ± 2 percent; hysteresis is ± 5 percent; and non-linearity is ± 1.5 percent.

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