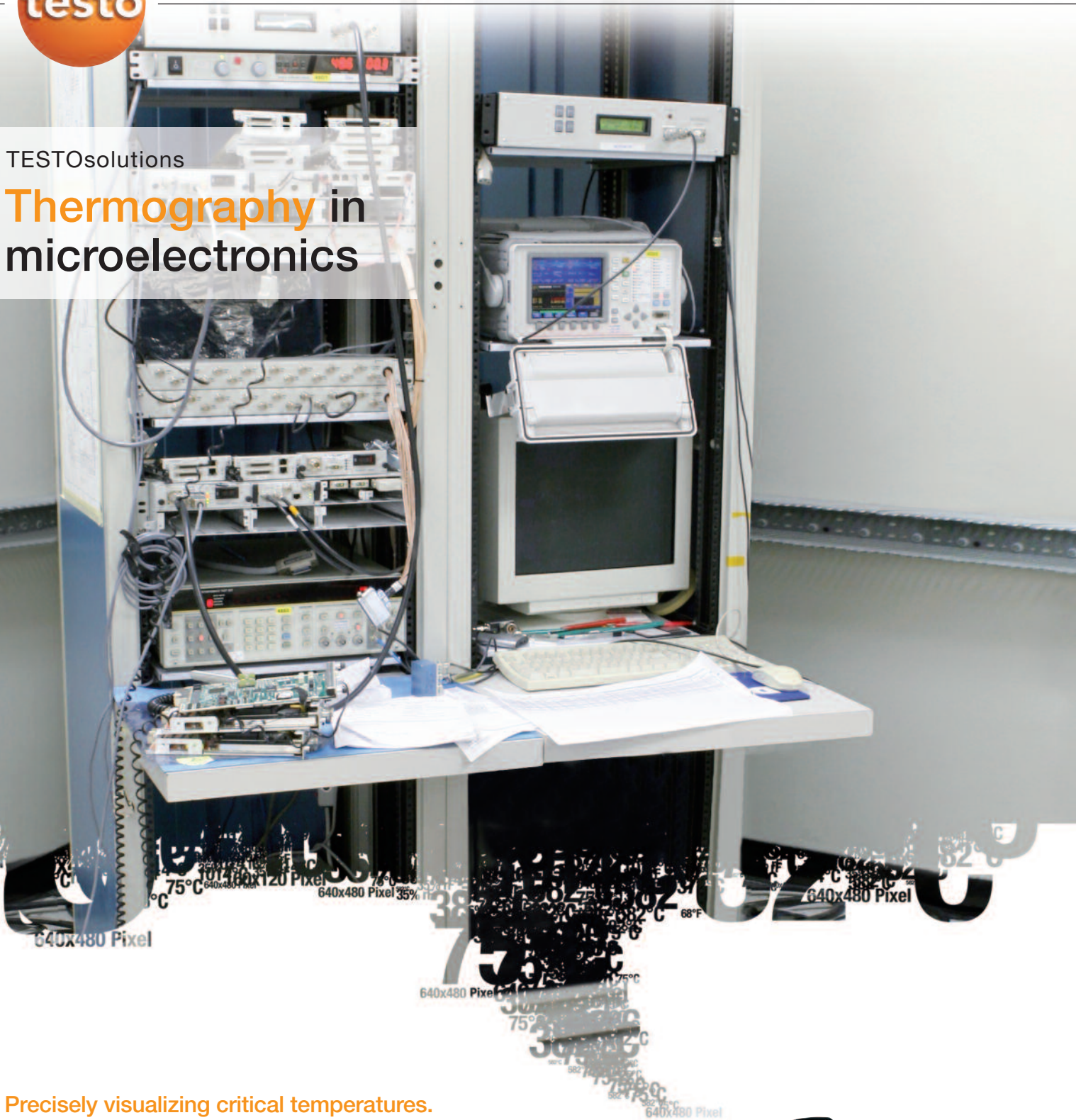




TESTOsolutions

Thermography in microelectronics

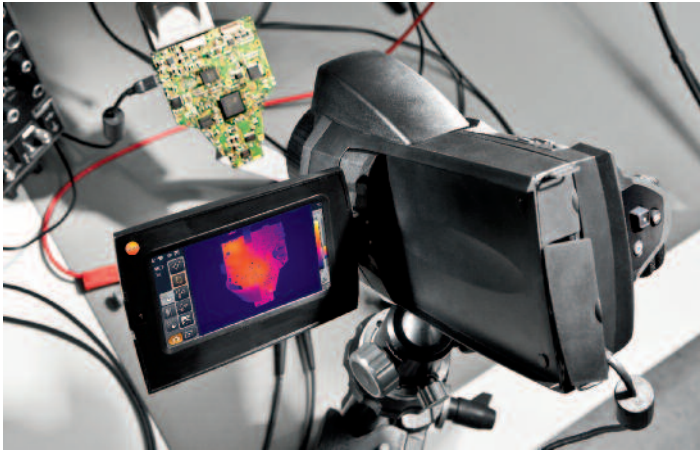


Precisely visualizing critical temperatures.

Electronic components are becoming smaller and smaller, the demands on heat withdrawal are increasing. For optimization purposes, an examination of temperature conditions using a thermal imager is expedient, and the analysis of warming and cooling behaviour over defined time intervals is often required. Only high-quality thermal imagers with the highest geometric resolution and the possibility of recording fully radiometric video sequences are up to this job.



The application

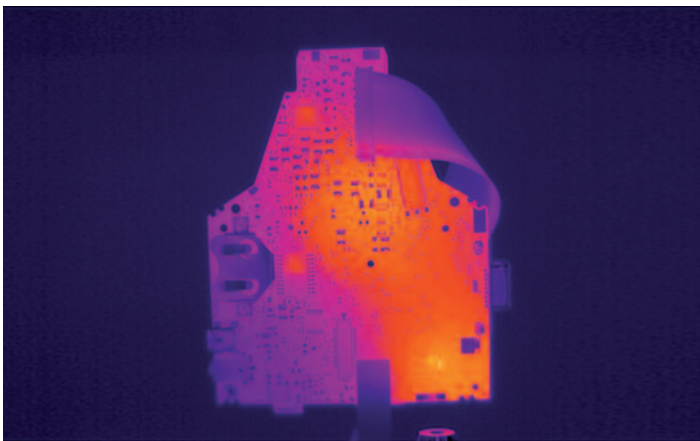


Heat development on a test bench.

The miniaturization trend in electronic components continues – and with it, the requirements regarding heat transfer: even the smallest components in the narrowest spaces create heat which can affect the component itself or adjacent assemblies. Especially the development of heat over time can negatively influence the functionality and life expectancy of an instrument.

Thermography is an effective tool for the optimum dimensioning and positioning of electronic components for an ideal circuit board layout: It allows temperature distribution and development to be identified without contact even in the smallest scales. Since thermal curves frequently also need to be taken into consideration, individual thermal images are often not sufficient.

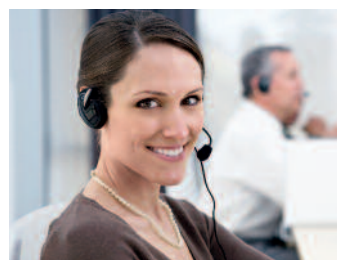
The solution



Visualize heat development in detail – without contact.

Thermography of microelectronics requires a very good geometric resolution in order to be able to measure the smallest structures reliably. A detector size of 640 x 480 pixels is often indispensable here. In the testo 890, the intelligent interaction of the system components with a 640 x 480-pixel detector and a 42° lens allows a focus distance of only 10 cm. This enables the resolution of tiny structures of 115 µm. The testo 890 offers all preconditions for the thermography of electronic components: You record thermal pro-

cesses in real time with the fully radiometric video measurement, and transfer the data directly to a PC. The recording can be stopped and analyzed at any point. And: For every instant in the video, all temperature measurement points are exactly available per pixel, so that you can precisely analyze all thermal developments and if necessary introduce optimization measures.



More information:

For more information and answers to all your questions concerning thermography on microelectronics, contact our thermography experts at +49 7653 681 700 or thermografie@testo.de.