NanoRapid raises Throughput for Selective Laser Soldering

Nanosystec introduces NanoRapid: a high-speed selective laser soldering system which is well suited for high volume production. The unparalleled productivity reduces the production costs. The new system is not only technically superior but offers substantial commercial benefits.

Selective laser soldering has numerous advantages for connecting electrical circuits and subassemblies. The concentration of the energy precisely on the solder point limits the unwanted heating of the surrounding components. As the laser beam can be focused to less than 0,1mm spot diameter, electrical circuits with a very fine pitch can be easily processed. The intensity of the laser power is arbitrarily adjustable. As the exposure duration is freely selectable, the ideal temperature profile can be realized.

Despite all these advantages, laser soldering is used only sporadically for industrial applications as the soldering time per solder point is in the order of seconds. Nanorapid resolves this limitation. Several solder points are processed in parallel and the throughput increases proportionally.

The optical assembly generates several individual laser beams. Each of these beams is tailored according to the requirements of the task. The geometrical form fits perfectly to the shape of the solder point and the power distribution among the individual beams takes the specifics into account.

The technology is the result of intense research and utilizes modern optical components and principles. Optical subassemblies generating more than 43 laser beams have been realized. The lateral distribution of the laser beams can follow any pattern. There is no need for any regularity.

NanoRapid is designed for the integration in production lines. It has all necessary interfaces and meets the industrial standards. Existing lines can be easily retrofit.

nanosystec GmbH

Marie-Curie-Strasse 6

64823 Gross-Umstadt, Germany

Website: www.nanosystec.net

E-mail: sales@nanosystec.net

Phone: +49 (6078) 782540

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