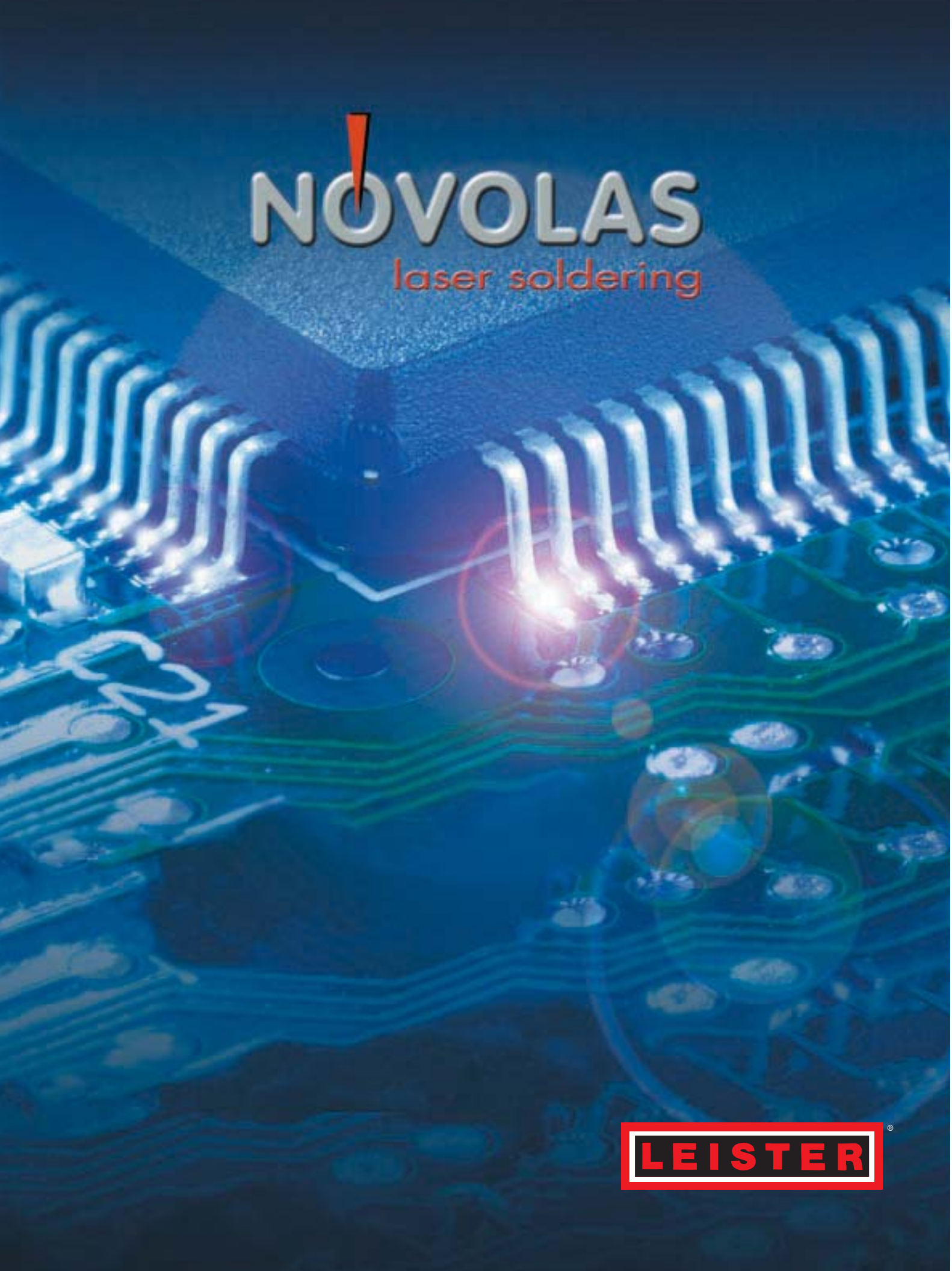
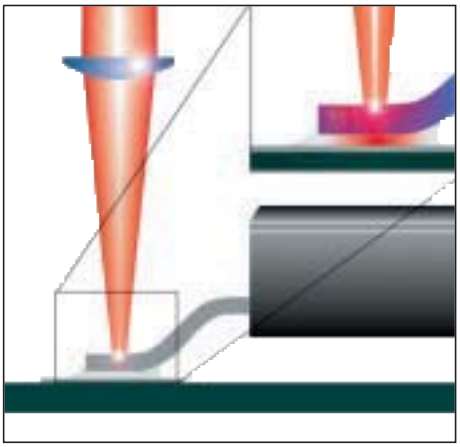
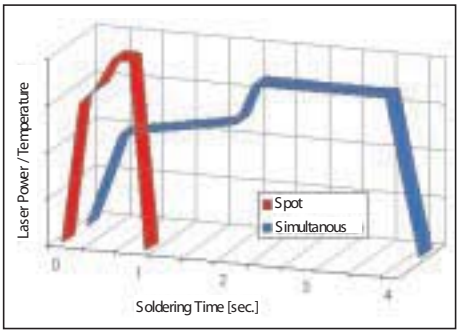

NOVOLAS
laser soldering
LEISTER

Principle





The Laser Soldering process utilizes a precisely controlled laser beam to transfer energy to a soldering location where it is absorbed and used for soldering. The laser energy is absorbed by the substrate, the solder, or the flux. The absorbed energy heats the solder until it reaches its melting point. This precisely controlled process leads to a fast joining of the involved components. The very short heating and cooling cycle results in a fine intermetallic structure. The accurate and non-contact process guarantees a high quality solder joint.

Process parameters, such as laser power, process time, and geometry of the laser beam can be easily programmed, allowing for consistent soldering results and flexibility to switch between various applications.

With laser soldering it's possible to solder SMT (Surface Mounted Technology) and THT (Through Hole Technology) components with the use of solder wire, solder paste, or solder pre-forms.

The use of a laser beam as a heat source brings many advantages to selective soldering. Single contacts as well as whole components can be soldered in this way without contact or thermal damage to the component, substrate or the surroundings.

Advantages

- Non-contact
- Minimal thermal stress
- Locally confined heat input
- High quality solder joints
- Precisely controlled process parameters
- Programming is easy and flexible
- Low maintenance

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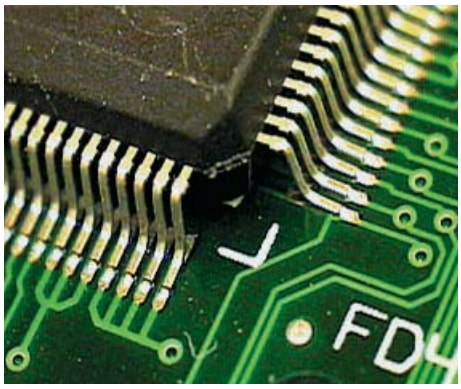
Applications

Laser soldering with NOVOLAS is ideally suited for selective soldering applications that demand precise control of the process. The non-contact laser technology of NOVOLAS and its unique range of concepts, like spot or simultaneous soldering, fits into many soldering applications.

Typical applications are:

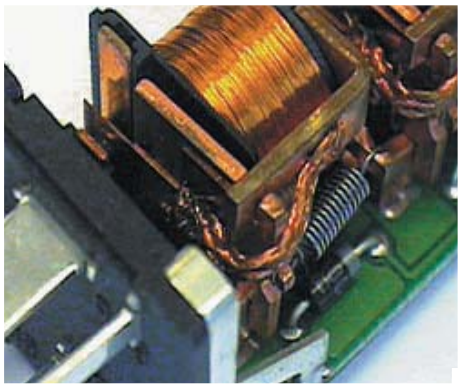
SMT applications

NOVOLAS laser soldering of SMD (Surface Mounted Device) components with solder paste prevents thermal stress that affect sensitive components or substrates. Additionally, applying laser lines instead of a spot allows for the simultaneous soldering of several contacts - which can increase productivity. The long lifespan of the diode laser and non-contact design contribute to the low maintenance of the NOVOLAS system.



THT applications

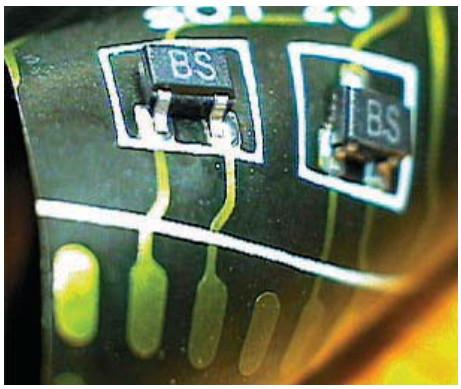
NOVOLAS laser soldering of THD (Through Hole Device) components is a rapid process and applies minimal thermal stress to the substrate. The precise control and localized heating is ideally suited for multi-stage, complex soldering applications. The NOVOLAS E-spot software allows flexible programming of locations, power profile and spot size. In addition, the compact, computer controlled wire-feeder is capable of constantly delivering the exact amount of solder required.



Special applications

The application of laser soldering with NOVOLAS is well suited for sensitive substrates, such as flex-prints or ceramics. A simple adjustment of the parameters allows a quick changeover to different solders, such as lead-free or high melting wires. The non-contact laser technology is also qualified for the soldering of components with unusual geometrical conditions.

New applications for the NOVOLAS soldering system are constantly being developed. Perhaps you have an application today…



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LEISTER Process Technologies has over 50 years of experience in development, manufacturing, and worldwide distribution of technical products for hot air application. LEISTER is an innovative, independent, and dynamic privately held company that manufactures high-tech products according to customer requirements.

LEISTER Lasersystems offers systems for soldering and plastic welding. With the support of an application laboratory in Switzerland and the United States, LEISTER Lasersystems is working with customers to identify a laser process for every application. All members of the LEISTER Lasersystems team are highly experienced specialists to assist you in material selection, process validation, and integration of the laser system and process into your production.

LEISTER complies with the ISO9001:2000 standard. Quality control is integrated into all production and laboratory processes. Complete confidentiality is guaranteed for whatever we do for you.

LEISTER Lasersystems offers you total customer-oriented service. This philosophy is carried throughout the initial discussions and process development and continues with after-sales service and support. The NOVOLAS system is designed and built for years of reliable service.

Please do not hesitate to contact us with your applications and requirements!

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