High-Speed, High-Precision and High-Flexibility, Automated Die-Bonder for High-Power Laser Diode (HPLD) Packaging

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Abstract

High-Power laser diodes (HPLD) are one of the fastest growing segments in the laser industry driven primarily by growth in fiber lasers where HPLDs are used as pump sources. However, as fiber laser market prices continue to decline and approach commoditization, HPLDs are forced to follow the same trajectory. To satisfy this growing demand while maintaining their profit margins as prices continue to decline, HPLD manufacturers are under pressure to reduce manufacturing costs through automation. Furthermore, HPDL packaging form factors lack standardization making automation challenging. To address these manufacturing challenges, MRSI has designed and developed the H3-series of automated die-bonder that can deliver the flexibility and precision without sacrificing throughput for maximum asset utilization. MRSI's HPLD eutectic die-bonding process delivers a highly reliable bond with low% voiding, high bond strength, low stress solder joint and high placement accuracy. This combination of equipment's capability and process optimization ensures that the end-user can mount the HPDL on its carrier with the highest reliability. This presentation describes the key features, benefits and value proposition delivered by this machine.

Speaker's short bio:
Rajiv Pandey is a Senior Product Manager with MRSI Systems, responsible for product management of MRSI's next generation of automated die-bonders. MRSI's die-bonders are deployed in the packaging of a variety of photonics components e.g. CoC, CoS, TOSA, ROSA, AOC, TO cans and Gold-Boxes, which are used in building optical networks and high-power lasers. Mr. Pandey has worked in the laser industry for the better part of two decades in various engineering and management positions with Spectra-Physics (MKS Instruments), DILAS (Rofin/Coherent), Synrad (Novanta), Teradiode (Panasonic) and EM4 (Gooch and Housego). He started his early career as a Process Engineer in high-power laser diodes manufacturing and for the past 15 years has been in product management roles. Mr. Pandey earned his MS in Chemical Engineering from the University of Arizona and his B.Sc. in Chemical Engineering from the University of Manchester Institute of Science and Technology (UK).