

Volume XIII

## Solutions Newsletter

### For Dispense and Assembly

Welcome to Solutions Newsletter. This periodic newsletter provides information on our latest happenings and product updates.

Many thanks to our loyal customers for their continued interest in our products.

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### Device Flipping Mechanisms & Eutectic Stages

#### 90 Degree Flipping Mechanism

Certain devices, especially optical parts, require a 90 degree change in orientation after pick up. MRSI offers 90 degree flipping mechanisms for all our die bonders. After being picked up, a part is placed on a flipping mechanism with a vacuum pedestal. The mechanism flips the part 90 degrees. The part is then vision processed prior to pick up and placement on the substrate.

#### 180 Degree Flipping Mechanism

Some devices, for example flip chips, require a 180 degree change in orientation after the pick up. After being picked bump side up, a flip chip die is placed on a flipping mechanism. The mechanism flips the die 180 degrees so that the bumps are down. The die is then picked up and vision processed using an upward facing camera and placed accurately onto the substrate.

#### Fast Ramp Eutectic Bonding Package

MRSI offers a full array of fast ramp eutectic stages This includes both in-line and batch loading eutectic stages. The batch loading stages include a pulse heating eutectic stage with fast temperature ramping capability. These stages are available in various sizes including; 15 mm x 25mm, 25 mm x 50 mm and 50 mm x 50 mm. The automatic in-line conveyORIZED eutectic stage includes multiple heater blocks customized to for a specific package and boat.

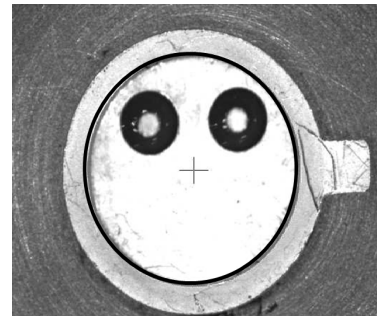
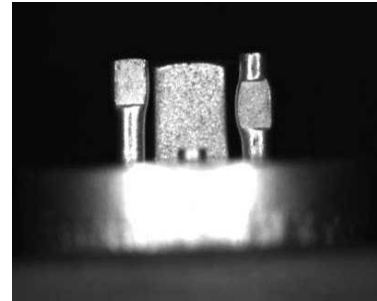
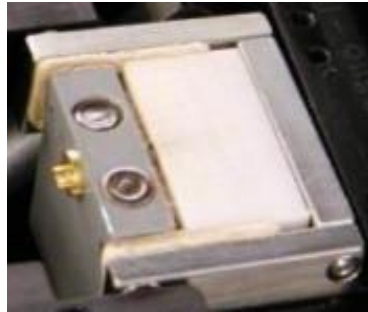
#### TO Can Package Rotational Eutectic Stage

The TO metal can package is commonly used for laser diodes, power

transistors, silicon-controlled rectifiers, and, occasionally, integrated circuits. The TO can design originated at Motorola around 1955. The lead spacing was originally intended to allow plugging the device into a then-common tube socket, however the basic package design has survived all these years.

When assembling laser diode packages a common configuration includes a eutectically attached laser diode and an epoxy die bonded photo detector. The two devices are mounted in a vertical plane 90 degrees from each other. MRSI offers a unique pulse heating eutectic stage for TO Cans with built in rotational capability.

If you have similar challenges, give our application experts a call.



## IMAPS and Productronica Another Big Success

### Upcoming Events: Semicon China, OFC and IMAPS Device Conference!

IMAPS and Productronica shows complete our trade show calendar for the year 2015. Both shows were well attended and gave us a chance to discuss new and interesting applications with our existing and future customers.

2016 show schedule starts off with three major events in March including;

- Semicon China, March 15th to 17th, Cycad Century Science & Technology, booth #2551 in Shanghai, China.
- OFC - Optical Fiber Conference, March 22nd - 24th 2016, booth #3449 in Anaheim, CA.
- IMAPS 12th International Conference and Exhibition on Device Packaging at WekoPa Resort and Casino Fountain Hills, Arizona USA. We hope to see you there!

You are always welcome to come visit us at our Billerica factory. Contact us with your dispensing and assembly challenges. Chances are we have already solved them!



## MRSI Expand Asian Support

### Asian Support Team Continues to Expand

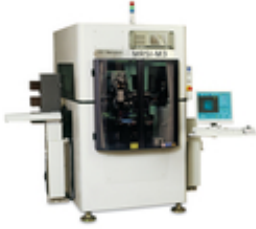
To meet the demand of our rapidly expanding business, MRSI continues to add to our Asian support organization with the addition of ShiLi Wu, Applications Engineer located in Shenzhen, China. ShiLi is a graduate of Shenzhen University and is an experienced die bonding engineer with extensive experience in manufacturing, NPI and R&D. His background includes positions with Sanmina-SCI Optical Technology and Kaiam.



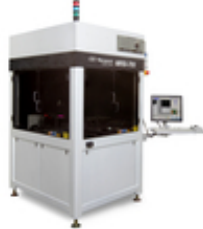
In addition to our existing staff of seven dedicated engineers in Asia, ShiLi is here to assist you with that extra level of support. MRSI has been building up our customer support organization that is managed by Peter Cronin. Cronin states that "these experienced engineers have all worked for many years in the die bonding and dispense field and bring a wealth of knowledge and experience along with their positive attitude."

You can contact our service department at [service@mrsisystems.com](mailto:service@mrsisystems.com)

## Assembly Work Cell



## Assembly Work Cell



## Epoxy Dispenser



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