

## PHIXEL MIS - STRIP-TO-STRIP INSPECTION AFTER PLATING

### Enables early detection of production problems to prevent loss

The Strip-to-Strip Inspection after plating guarantees the quality of WIP products with fast feedback loop. When manufacturing cost and quality are a concern, the PHIXEL MIS minimizes waste and loss - enabling early detection of defects usually only discovered during the final 4th Optical inspection of finished products. With ultra-high-speed vision scan, high-precision for 2D inspection DFN products, high accuracy laser for reject treatment, and fast conversion, the PHIXEL MIS supports the largest strip size: 100x300 mm.



#### Key features

##### Application

- Inspection of lead-frame substrate to detect package dimension, molding and plating defect

##### Key features

- Dual stations for 2D inspection and laser marker
- Throughput: 32,000 to 117,000 UPH (subject to package size & leadframe density)
- Support max 100 mm x 300 mm substrate LF size
- 8K or 16K line scan camera resolution
- 3-4 magazines for on/off loaders
- Auto-lead frame QR code reading
- Full strip laser mark option
- Vacuum system and brush clean for package laser mark
- AOI cellular network architecture for recipe and e-Map management
- Option: real-time data feeding to MES and eSPC
- Option: auto email alert (defect/batch summary)
- SEMI standard with SECS/GEM interface
- Advanced Defect Classification (ADC) by deep learning

#### Specifications

##### Imaging system

- Camera: 16K color line-scan camera
- Number of cameras: 2
- Resolution/Field of view: 3.17 to 6.3  $\mu\text{m}$  / pixel, FOV 50 mm to 100 mm
- Minimum object detection: 12 to 25  $\mu\text{m}$
- Lighting: Compound lighting

##### Inspection categories

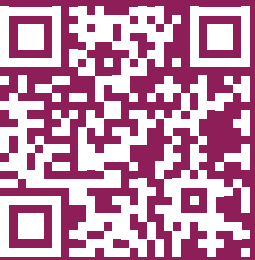
- Program mode: Fast programming for common reject criteria
- Reject treatment: Electronic map and auto punching
- Inspection view: Top and bottom view

##### Inspection items

- Moulded lead-frame defects: Chipping. Body broken. Scratch. Pin hole or void. Mold shift. Incomplete mold. Gate remain. Foreign material. Gate chipping. Rough surface. Melted Body. Blister. Body crack. Bubbles
- Lead-frame defects: Flash along lead. Cu exposure. Contamination. Bend lead or twisted lead. Mould compound leakage on lead. Burr. Missing lead. U-shape flash (mold flash under lead-frame). Indexing hole deformation. Mold flash. Lead press. Lead width. Empty (no encapsulation)



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