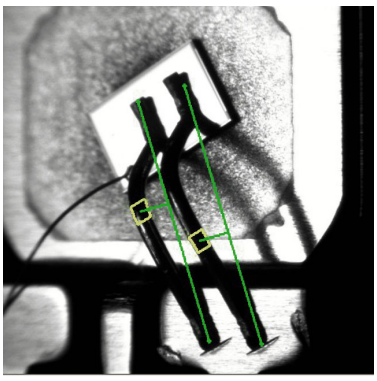
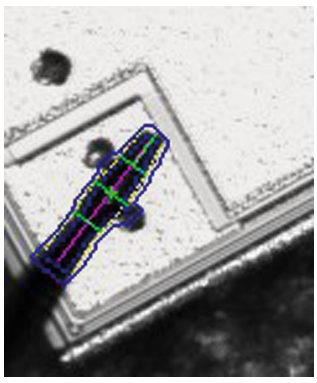
PBInspect and Zero Defect

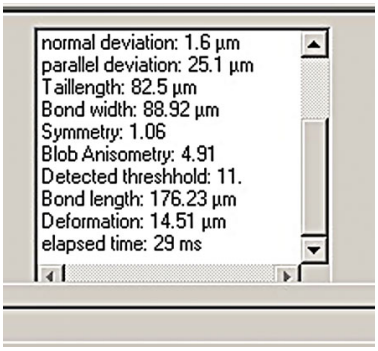
F&K Delvotec's new PBInspect System now brings online measurement capablities previously available only on expensive off-line equipment AND with no loss of UPH. Measure parameters such as bond symmetry, bond width, tail length, loop height, loop sway and lift-offs. Reduce the number of reject parts and aim for zero defect production using PBInspect.



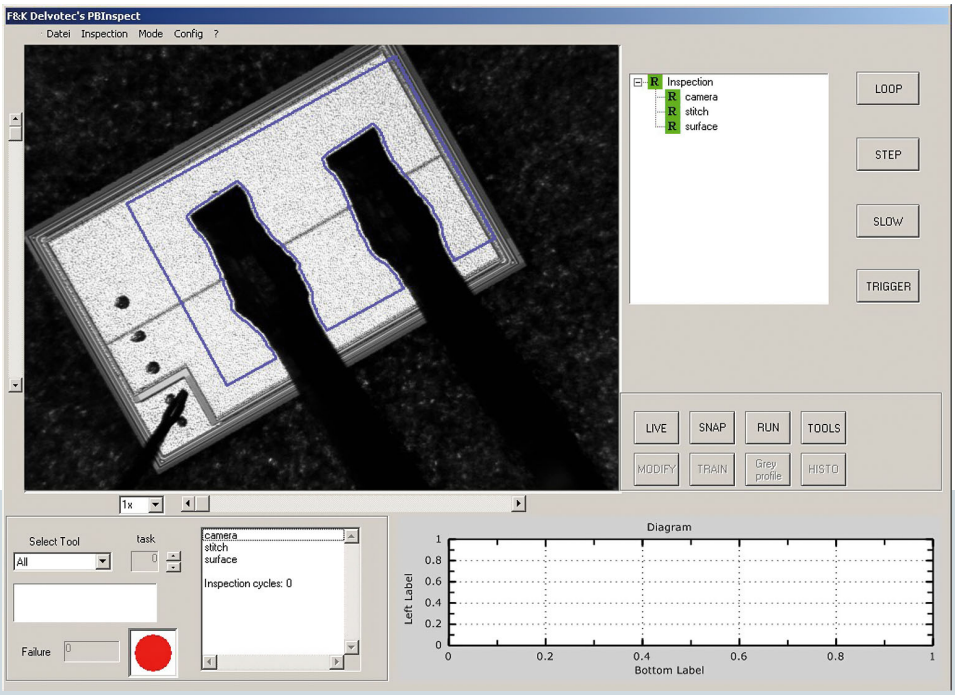
Loop inspection:
Inclined camera



Stitch inspection:
Vertical camera



Surface inspection:
Vertical camera



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GENERAL PRINCIPAL

The PBInspect system is taught expected values for
- die position, die rotation, bond position on the die
- bond position on the lead
- bond width, symmetry, tail length, loop height, loop sway etc.

from a known good unit. Measured values of subsequent units are compared to the stored values of the known good unit.

Programmable maximum allowable deviations

MAIN COMPONENTS

Standard: 2 CCD camera units mounted on the indexer track for top & side view images; optional: up to 6 cameras possible

Powerful LED illumination

Computer with associated software

CAMERA DETAILS

Vertical camera: Field of view: ~ 2 mm² up to 10 mm², calibrated system

Inclined camera: Field of view: ~ 6 mm² up to 10 mm², calibrated system

ELECTRONIC ZOOM

Programmable by a factor of 2, 4 and 8

POSSIBLE OPERATION MODES

The PBInspect system fail signal is used to operate an inker or other means of identifying a faulty part to avoid any subsequent processing of this particular part.

The wire bonder advises the PBInspect to check for lift-offs if impedance check or bond process control results are questionable.

SPEED

Total processing time for a two wire DPAK unit: < 300 msecs

OUTPUT OPTIONS

All results or only those selected by the operator

Output of pass/fail results via the network for processing on the host computer.

ADVANTAGES FOR QUALITY ASSURANCE AND VARYING APPLICATIONS

Traceability	If the leadframes or carriers have been fitted with bar codes or other means of automatic recognition the results of PBInspect can be affixed to the identifier for absolute traceability.
Speed	No effect on the overall machine throughput
Off-line analysis	Images and parameters can be saved off-line and sent via the network for remote analysis and parameter optimisation
Open Software Architecture	New image processing algorithms can be easily integrated

PBInspect and Zero Defect-001

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