

Visionscape™ Package Visual Inspection

Product Summary

The Visionscape™ Package Visual Inspection system is designed to meet the needs of semiconductor device manufacturers and other OEM equipment suppliers for comprehensive package visual inspection.

Built on the high-performance Visionscape™ machine vision platform, the Package Visual Inspection system offers a proven solution for inspection of semiconductor devices throughout the manufacturing process.

The Visionscape™ Package Visual Inspection system offers options for comprehensive



high-performance package inspection including Pin 1 presence/absence, chips, scratches, voids, indentations, blisters, bubbles, incomplete mold fill, cracks, foreign material, excess material, abrasions and non-homogenous mold.

Multiple high level-vision processing tools for surface defect inspection and flaw detection

are available on the Visionscape platform and can be selected depending on the application. The system can inspect marked or unmarked packages and detect defects over a uniform or cluttered background. Scratches or other defects in the area of a package mark can be detected by masking the mark area. Alternative masking approaches are supported including, automatic masking. Inspection areas can extend to the edge of a package and rotated parts can be readily accommodated.

The Visionscape™ Package Visual Inspection system is delivered on the Acuity 2000 vision processor. This high performance vision processor used throughout the entire Visionscape™ product line delivers the functionality of a complete vision system in a single PCI bus slot of a host PC running Windows® NT/95. It supports a variety of machine vision cameras and offers on-board accelerated vision processing, I/O, communications, networking, and display.

Features/Benefits

- **Comprehensive Package Visual Inspection options including:**

Pin 1 Presence/Absence,

Chips,

Voids,

Scratches,

Cracks,

Indentations,

Blisters/Bubbles,

Incomplete Mold Fill,

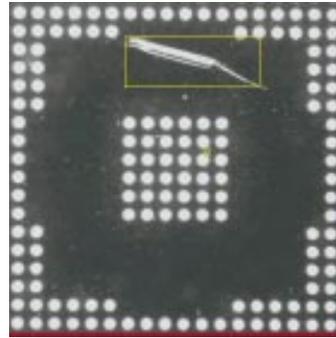
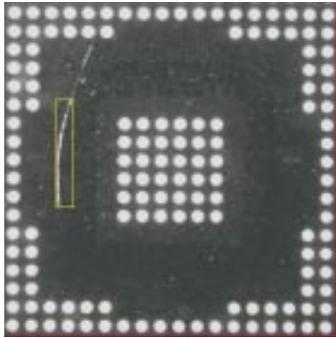
Foreign/Excess Material,

Abrasion,

Non-homogenous Mold

- **Detects defects over marks and other background clutter**
- **Automatic masking of marks**
- **Inspects rotated parts**
- **Inspects to the edge of a package**
- **Delivered on RVSI Acuity high performance vision processors**
- **Special purpose package visual inspection lighting**

Visionscape™ Package Visual Inspection



The Visionscape™ Package Visual Inspection system offers a built-in Windows® NT/95 Graphical User Interface (GUI) for point and click mark training, parameter setting and run-time inspection monitoring.

The Visionscape™ Package Visual Inspection system is easily integrated into a wide variety of OEM products including part handling equipment. The GUI can be readily modified to seamlessly work alongside an OEM's existing interface.

Under the Visionscape™ architecture, ActiveX™ Controls encapsulate the core vision system functionality and user interface required to develop and deploy applications. Users of the Visionscape™ Package Visual Inspection system get programming access to these ActiveX™ components which they can optionally use for customization by dropping the appropriate components into a Visual Basic® or Visual C++® application.



RVSI Northeast Robotics patented lighting modules designed specifically for mark & package visual inspection, ensure even illumination across the entire field of view thereby assuring the most accurate and repeatable measurements.

Host-PC Requirements

Pentium class CPU (266 MHz or higher), one open full length PCI slot, Microsoft Windows® NT 4.0 or Windows 95 operating system.

Acuity 2000 Vision Processor

- Single slot PCI card
- High performance vision engine off-loads host PC
- Acuity ASIC accelerates all vision processing for throughput & robustness
- Multiple inspections per board & multiple boards per computer
- Supports analog & digital cameras
- On-board digital I/O, analog outputs, serial ports, display, and TCP/IP networking

Visionscape™ Software

- Broad collection of high-level vision and automatic identification tools
- Windows® NT/95 GUI for vision application development & deployment
- ActiveX™ components encapsulate functionality for easy customization with Visual Basic or Visual C++
- Open software architecture reduces integration costs, speeds time to market & deployment for OEM and factory floor users



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