

S6053BO-V

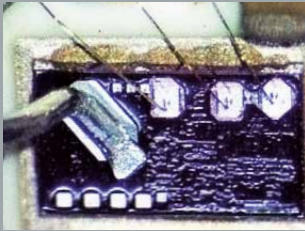
The System for Automatic Optical Wire Bond Inspection



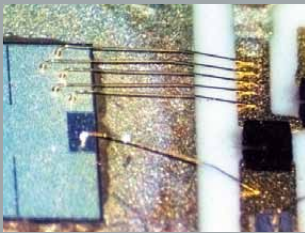
BOND-AOI

Wire Bond Inspection

Wire Bond Inspection – Automatic In-line Inspection of Thin and Thick Wire Connections



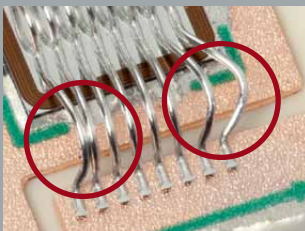
Defect detection on bond wires of different diameters



Defect detection on multi bond wires, balls and wedges



Defect detection on multiple wire connections and multiple loops



Short circuit (on the left) and bent wire (on the right)

Modular camera system scalable to inspection criteria and throughput

High accuracy inspection at wire diameters down to 17 μm

Combined inspection of bond connections and SMD assembly

Optional loop height determination

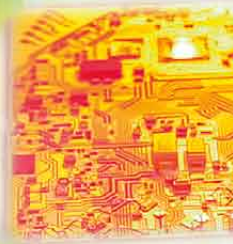
Innovative transport concepts

Auxiliary modules: verification, off-line programming and SPC evaluation

Worldwide competent service on site, hotline and remote support

The packaging technologies in electronics are driven not only by miniaturization, but also by the need to increase component performance and reliability. Wire bonding is an important technique in High-Density-Packaging (HDP) as well as in Chip-On-Board-Technology.

Since this connection technology is also frequently employed in safety-relevant areas, the quality assurance requirements are accordingly high.



High accuracy inspection guarantees reliable defect detection of die bonds, ball-to-wedge, wedge-to-wedge and security bonds

In order to check the adhesive integrity of the bond connections or to detect missing wires on multiple bonds, an electrical test is insufficient. The automatic optical inspection system Viscom S6053BO-V for bond inspection guarantees **reliable defect detection in typical bonds**. During inspection, **high resolution cameras** register every solder joint and wire bond. The resulting images are evaluated with high performance, proven Viscom inspection software for a combined inspection of bond connections and SMD assembly.

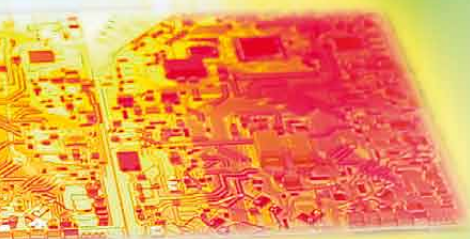
The **inspection scope** includes, among other things, evaluation of bond positions, leads, dies and component position. Aluminum thick wire connections as well as aluminum and gold thin wire connections with wire diameters down to 17 μm are positively inspected with the S6053BO-V. The inspection program can also detect damaged and/or misplaced components. As an option, it is possible to measure loop height.

The **standard library** contains inspection patterns for die bonds, ball-to-wedge, wedge-to-wedge and security bonds. The inspection scope can be individually adjusted beyond the standard defects, for additional applications.

Inspection programs can be written and optimized off-line at the Viscom programming station; previously saved images are available for this purpose.

The combination of powerful **SPC evaluation** (statistical process control) with a wide variety of filter options for process optimization enables the system to operate in a closed loop for bonder control.

Efficient individualized support is provided through **user support and service**, which include remote diagnosis, a hotline and on site servicing. In addition, our Internet customer forum offers up-to-date information and assistance with everyday operation.



Integrated transport system



Ceramic substrate

Technical Specifications

S6053BO-V

Application

Ball-bond, wedge-bond, wire, die/SMD

Camera technology

Ultra-high resolution VHR module

Number of modules per machine Typical 1

Number of mega pixel cameras 1

Pixel size Typical 5 µm/pixel or 2.5 µm/pixel

Further cameras available on request

Standard module 8M-1SRWBond

Number of modules per machine Typical 1

Number of mega pixel cameras 1

Pixel size Typical 11 µm/pixel

Further cameras available on request

Software

User interface Viscom EasyPro

SPC Viscom SPC (statistical process control), open interface (option)

Verification station Viscom S6002 HARAN

Remote diagnosis Viscom SRC (option)

Programming station Viscom PST34 (option)

System computer

Operating system Windows®

Processor Intel® Core™ i7

Substrate handling

Substrate dimensions Single-track: 152 x 127 mm (6.0" x 5.0") (L x W)

Dual-track: 152 x 101 mm (6.0" x 4.0") (L x W)

Further dimensions on request

Transport height 924 mm ± 20 mm (other heights upon request)

Width adjustment Option

Handling unit Gantry system with synchro-linear motors

Dual-track operation With internal shuttle (external shuttle optional)

Substrate fixing Vacuum or mechanical clamping

Upper transport clearance 9/15/35 mm (0.35"/0.59"/1.38") (depending on camera technology)

Inspection speed

> 1000 wire bond connections/min.

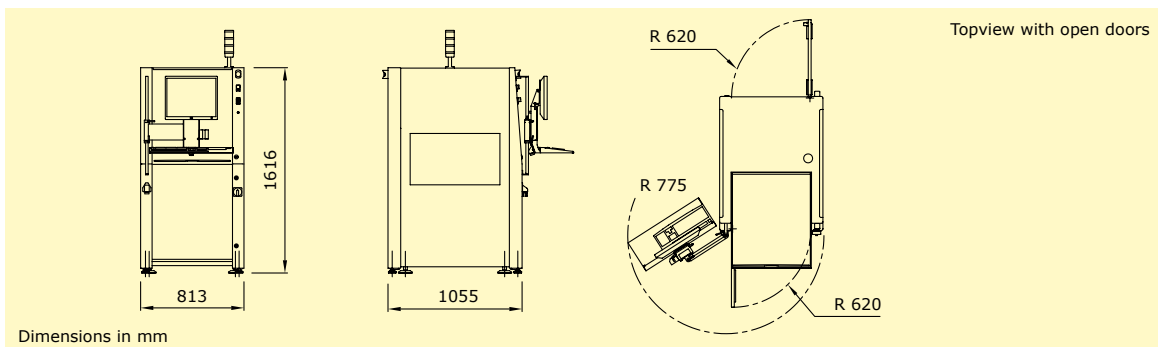
Other system data

Interfaces SMEMA, SV70, customer-specific

Power requirements 230/400 VAC; 3 P, N, PE; 16 A; 50/60 Hz; compressed air 6 - 8 bar (90 psi) (dry, oil-free)

System dimensions 813 x 1055 x 1616 mm (32.0" x 41.5" x 63.6") (W x D x H)

Weight 850 kg (1874 lbs)



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