

InoD Solution

IVI 1000 Automatic Wire Bond Inspection Patent Applied



Technology

IVI is an automated, reliable and cost effective solution for post wire bond inspection and measurement. The system utilises a unique and proprietary sub-pixeling technology as well as localised calibration and distortion correction enabling high accuracy measurement with unsurpassed repeatability.

By integrating multiple high resolution cameras with precision optics, combined with proprietary illumination configured to various inspection requirements, the use of costly laser technology or the cumbersome z-axis focusing adjustment are eliminated. Thus, high accuracy measurement and high speed inspection can be achieved by IVI.

IVI 是一套专门针对引线焊接后道工序检测的解决方案,具有自动性、稳定性、性价比高等突出特点。有别于昂贵的激光技术和繁琐的Z轴聚焦法,该系统则通过将多个高分辨率相机与精密光学整合,结合专有的照明配置,采用独家专有的亚像素技术、局部较准和畸变校正技术,来满足多种检测要求,从而同时实现了高精度、高重复性和高速检测。

Specifications

Software Features

- Windows based interface
- 2D & 3D measurement with sub-pixel accuracy
- Traceability with full exportable report
- Easy configuration for new device
- Configurable pass / fail criteria
- User access management

Inspection Criteria

- Missing Die
- Die Placement
- Die Scratch
- Bond Placement
- Bond Width
- Bond Deformation / Long Tail
- Die Tilt
- Bond Height
- Wire Loop Height

Optical System

- Camera Resolution : 1392 x 1040 pixels
- Pixel Size : 4.65µm x 4.65µm
- Optical Lens : 0.6X Telecentric lens
- FOV : 10.6mm x 8mm

Repeatability

- Bond Height : ±8µm
- Die Tilt : ±5µm
- Wire Loop Height : ±6µm
- Bond Width : ±5µm

Cycle Time

- All 2D + 3D : 409ms

Material Handling

- Material Type : Semiconductor lead frame package
- Lead Frame Size : 175mm - 260mm (L) x 15mm - 80mm (W)
- Magazine Size : 180mm - 265mm (L) x 20mm - 85mm (W) x 100mm - 200mm (H)

Machine Dimension

- Dimensions : 1.6m (W) x 1.2m (D) x 2.0m (H)
- Weight : 450kg
- Power Requirements : 200 - 240VAC, 20A, 50/60Hz
- Air Requirements : 6 Bar

Options

- Other camera and lens combinations available depending on object requirements
- Customisation for other lead frame or magazine size possible

* Specifications are subject to change without notice

软件特色

- 简易的Windows视窗操作界面
- 亚像素级2D和3D测量精度
- 可追溯性:支持测量数据输出
- 易于设置新产品
- 可自行设置检测标准
- 用户管理

检测项目

- 晶片缺失
- 晶片位置
- 晶片刮痕
- 焊接点位置
- 焊接宽度
- 焊线变形/焊线尾长
- 晶片倾斜
- 焊接高度
- 引线高度

光学系统

- 相机分辨率 : 1392 x 1040 像素
- 像素尺寸 : 4.65µm x 4.65µm
- 光学镜头 : 0.6倍远心透镜
- 视场 : 10.6 mm x 8 mm

重复性

- 焊接高度 : ±8µm
- 晶片倾斜 : ±5µm
- 引线高度 : ±6µm
- 焊接宽度 : ±5µm

周期

- 2D和3D : 409ms

材料输送与装卸

- 材料类型 : 半导体引线框架
- 引线框架尺寸 : 175mm - 260mm (长) X 15mm - 80mm (宽)
- 装载箱尺寸 : 180mm - 265mm (长) X 20mm - 85mm (宽) X 100mm - 200mm (高)

机器规格

- 外观尺寸 : 1.6m (长) X 1.2m (宽) X 2.0m (高)
- 重量 : 450kg
- 电源 : 200 - 240VAC, 20A, 50/60Hz
- 气压 : 6 Bar

其它选项

- 可基于不同检测要求提供相应的相机及镜头配套组合
- 可定制引线框架及装载箱尺寸

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