

# ViTrox Total Machine Vision Solutions

## Color Vision 彩色视觉



Caters for broad range of semiconductor packages.  
Advanced illumination for color vision inspection.  
High accuracy up to  $15\mu\text{m}$  with rapid inspection speed of  $<130\text{ms}$ .  
Full color detection to detect color defects such as exposed copper and pad discoloration.

可检测多种类型的封装。先进的照明作为色彩视觉检查。更高的精确度： $15\mu\text{m}$ 。  
更快速检测速度： $130\text{ms}$ 。充分的彩色以检测颜色的瑕疵如露铜及垫片褪色。

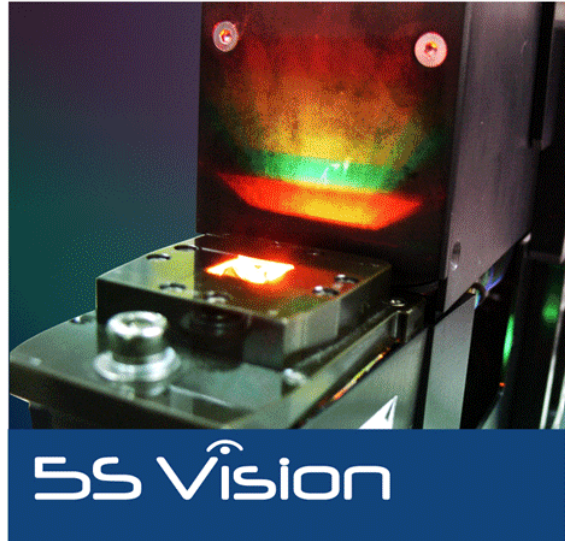
## Advanced 3D J-Lead Inspection 高级3维J管脚检测系统



Caters for J-Lead packages.  
Dual image grab lighting using proprietary technology.  
High accuracy of  $12.5\mu\text{m}$ .  
Inspection speed of  $<120\text{ms}$ .  
Advanced 5-sided view (3D) to cater for accurate lead co-planarity measurement.  
No conversion required for black or white packages.

为了配合J-管脚封装。  
摄取双重图像的照明设备是使用专有的技术。  
更高的精确度： $12.5\mu\text{m}$ 。更快速检测速度： $120\text{ms}$ 。  
先进的5侧视域(3D)以获取更精准的管脚站立度测试。  
无需变换于黑色或白色的封装。

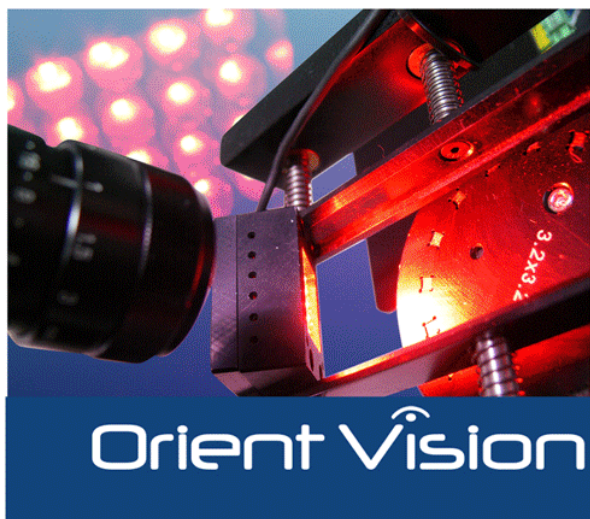
## Dual Cam 5 Sided Pad & Package Inspection 五侧垫片与塑封体视检(双频摄像)



Capable to inspect broad range of MLP/QFN packages.  
Superior image enhancement capability.  
Improved accuracy  $<10\mu\text{m}$  for pad dimension inspection.  
No conversion needed for packages  $<10\text{mm}$   
Single module compact design.

可检测多种类型的MLP/QFN封装。卓越的图像素质及清晰度更高。更高的精确： $10\mu\text{m}$ 。  
[垫片尺寸检测]。  
无需任何地替换。就可检测任何低于 $10\text{mm}$ [方形]的封装尺寸。  
先进的系统设计。

## On The Fly Mark Orient Vision 凌空字模与取向视检



Caters for all types of semiconductor packages.  
High accuracy of  $12.5\mu\text{m}$  with inspection speed of  $<130\text{ms}$ . Advanced orientation inspection for mark defects detection.

可检测多种类型的封装。  
更高的精确度： $12.5\mu\text{m}$ 。  
更快速检测速度： $130\text{ms}$ 。  
先进的取向视检以检测字模的瑕疵。



## 2D-Orientation Inspection

### 2维-取向视检

#### 2D-ORIENTATION INSPECTION

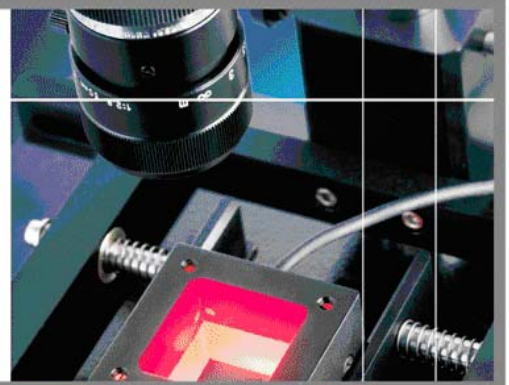
- :: Detectable orientation: 0°, 90°, 180° and 270°
- :: Flexible orientation template
- :: Rapid inspection cycle time
- :: Optional combinations with mark, lead or package inspection

#### 2维-取向视检

- :: 可检测的取向 0°, 90°, 180° 及 270°
- :: 伸缩性取向学习模板
- :: 快速检测时间
- :: 可与其他系统合并, 如字模, 管脚或塑封体检测

Products 产品:

**Mark Orientation Vision • Mark Orientation Package Vision • Mark Lead Orientation Vision • Orientation Vision**  
字模与取向视检 • 字模、取向与塑封体视检 • 字模、管脚与取向视检 • 取向视检



## 2D-Mark/Mark Lead Inspection

### 2维-字模/字模与管脚视检

#### 2D-MARK / MARK LEAD INSPECTION

- :: Caters for both ink/laser markings
- :: Multiple template to cater for mark variances
- :: Capable to differentiate similar character/number (e.g. 8,9)
- :: Automated mark learning/segmentation
- :: Able to handle different unit orientation
- :: Optional combinations with lead or package inspection

#### 2维-字模/字模与管脚视检

- :: 适于检测油墨/激光的字模
- :: 设有多个模板功能以迎合不同的字模
- :: 可区分相似的字模 (例如: 8,9)
- :: 备有自动学习字模/划分子模的功能
- :: 可应付不同的取向检测
- :: 可与其他检测系统合并, 如管脚, 塑封体或取向视检

Products 产品:

**Mark Vision • Mark Lead Vision • Mark Lead Package Vision • Mark Package Vision**  
字模视检 • 字模与管脚视检 • 字模、管脚与塑封体视检 • 字模与塑封体视检



## 3D Lead/5-Sided Inspection

### 3维管脚/5侧视检

#### 3D LEAD / 5-SIDED INSPECTION

- :: Ideal for lead and co-planarity inspection [3D lead vision]
- :: Capable to inspect large power devices (DPAK, D2PAK)
- :: Proprietary 5-sided view optical design [5-sided pad & package vision]
- :: Rapid inspection cycle time
- :: High accuracy inspection

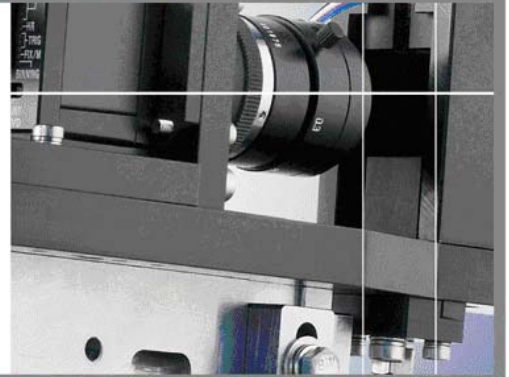
#### 3维管脚/5侧视检

- :: 适于检测管脚的尺寸与站立度 (3维管脚视检)
- :: 可检测较大集成电路 (DPAK, D2PAK)
- :: 具备专利的5侧光学设计 (5侧垫片与塑封体视检)
- :: 快速检测时间
- :: 高精度检测

Products 产品:

**3D Lead Vision • 3D Lead Vision (DPAK, D2PAK) • 2D Side Lead Vision • 2D Side & Bottom Lead Vision**  
**5-Sided Pad & Package Vision • Bottom Pad & Package Vision • Bottom Pad Vision**

3维管脚视检 • 3维管脚视检 (DPAK, D2PAK) • 2维 (侧) 管脚视检 • 2维 (侧+底部) 管脚视检  
5侧垫片与塑封体视检 • 垫片与塑封体视检 (底视) • 垫片视检 (底视)



## In-pocket Inspection

### 封带内视检

#### IN-POCKET INSPECTION

- :: In-pocket inspection with noise reduction capability
- :: Capable to overcome shining/black lead issues
- :: High inspection yield
- :: Optional combinations with lead or package inspection

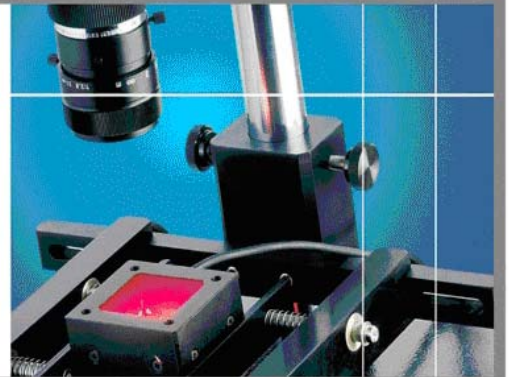
#### 封带内视检

- :: 降低封带检测的干扰
- :: 可胜任闪亮/黑管脚的检测难度
- :: 高检测产出量
- :: 可与其他检测系统合并, 如管脚或塑封体视检

Products 产品:

**In-Pocket Mark Vision • In-Pocket Mark Lead Vision**  
**In-Pocket Mark Lead Package Vision • In-Pocket Mark Package Vision**

封带内检测 (字模) • 封带内检测 (字模与管脚) • 封带内检测 (字模、管脚与塑封体) • 封带内检测 (字模与塑封体)



## Advanced 3D Inspection

### 先进3维视检

#### ADVANCED 3D INSPECTION

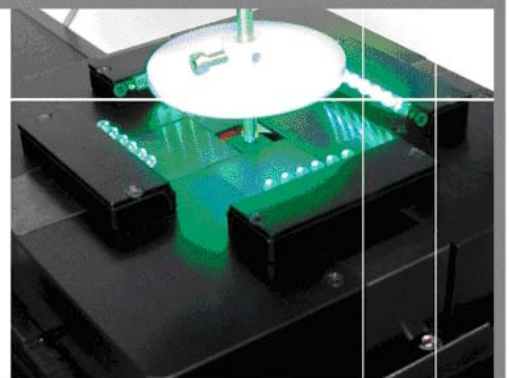
- :: Caters for a broad range of package type (QFP & BGA) and size (5x5mm - 20x20mm)
- :: Able to support MLP/QFN package inspection
- :: 5-sided view proprietary optical design
- :: Rapid inspection cycle time
- :: High accuracy inspection

#### 先进3维视检

- :: 适于检测多种类型的封装 (QFP & BGA) 与尺寸 (5x5mm - 20x20mm)
- :: 可检测 MLP/QFN 封装类型
- :: 具备专利的5侧光学设计
- :: 快速检测时间
- :: 高精度检测

Products 产品:

**3D QFP Lead Vision • 3D BGA Vision**  
3维QFP管脚视检 • 3维BGA视检



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