



MODEL 7940

KEY FEATURES

- Simultaneous double side color inspection
- 6" wafer/8" inspection area
- Automatic wafer alignment
- Wafer shape/edge identification
- Unique defect detection algorithm
- Versatile defect criteria definitions
- Complete defect classification
- Defect detection rate >98%
- Wafer mapping
 - Yield
 - Up/down stream operation

WAFER CHIP INSPECTION SYSTEM MODEL 7940

Chroma 7940 wafer chip inspection system is an automated inspection system for post-diced wafer chip inspection. It is capable of inspecting both top and bottom view of the wafer chip simultaneously. Utilizing an advanced illumination technology and color camera acquisition, the system can be customized for various wafer processes and test configuration such as vertical chip or flip chip inspection.

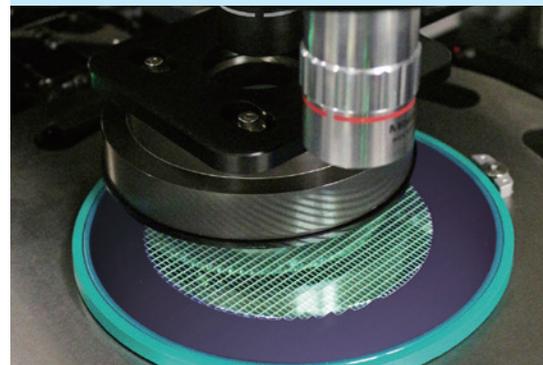
With high-speed camera and inspection algorithms, Chroma 7940 can inspect up to 6" wafer in 3 minutes with a throughput of up to 15 msec./chip. It provides auto focus and compensation for wafer warpage and leveling of an uneven chuck. 2X and 5X magnifications with 1.3 μ m/pixel and 0.5 μ m/pixel resolutions respectively are used to detect various defects down to 1.5 μ m in size.

System Function

After tape expansion, individual chip orientation may become irregular and chip realignment is needed during the inspection process. Chroma 7940 includes a software alignment function that automatically adjusts wafer alignment angle for precision scanning. The system comes with an easy-to-read and user-friendly interface that significantly reduces user's learning time while providing visual wafer mapping of defect regions and inspection result.

Defect Analysis

Besides pass/fail inspection and bin data, all raw data for the inspection result may be recorded for further analysis. This database makes it easy to analyze and obtain optimal parameters for balancing the over-kill and under-kill. It is also used to monitor defect trend caused by the production process, therefore capable of providing advanced feedback for production control.



Chroma

APPLICATIONS

LED Top Side Defects

- Pad Defect
- Pad Residue
- ITO Peeling
- Finger Broken
- Mesa Abnormality
- Epi Defect
- Chipping
- Chip Residue



Front side image with co-axis light



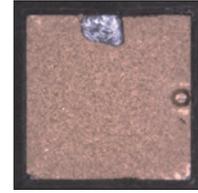
Front side image with ring light

LED Back Side Defects

- Dicing Abnormality
- Pad Bump
- Chipping
- Metal Lack



Back side image with co-axis light



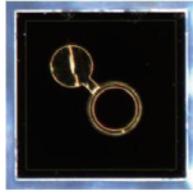
Back side image with ring light

VCSEL Top Side Defects

- Pad Defect
- Pad Scratch
- Emitting Area Defect
- Peeling
- Mesa Abnormality
- Epi Defect
- Chipping
- Chip Residue



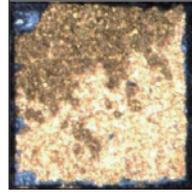
Front side image with co-axis light



Front side image with ring light

VCSEL Back Side Defects

- Dicing Abnormality
- Pad Bump
- Chipping
- Metal Lack



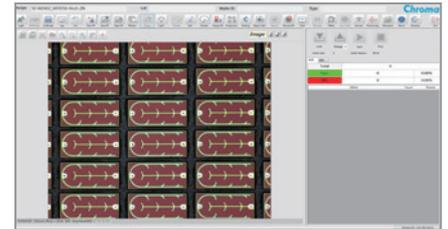
Back side image with ring light

SPECIFICATIONS

Model	7940
Suitable Chip and Package Type	
Applicable Ring	Grip ring or wafer frame
Inspection Area	8 inches
Chip Size	125um x 125um ~ 2.2mm x 2.2mm at 5X magnification
Suitable Package	LED vertical chip, flip chip, VCSEL
Inspection	
Camera	25M Color Camera x 2
Light Source	LED co-axis light, ring light, back light
Magnification	2X, 5X objective lens selectable
Resolution	1.28um/pixel (2X), 0.5um/pixel (5X)
Throughput	6" wafer in 3 minutes at 2 lights, 2X magnification
Algorithm	- Pad defect, mesa defect, chipping defect, double chips and emitting area defect - Provide algorithm interface to replace or add new inspection algorithm
System	
Cassette Load Port	Auto load ports x 3
Warpage Compensation	software auto focus to overcome wafer warpage
PC	x 1
Software Function	
Monitor	Real-time wafer map display
Image Storage	All/defect images saving selectable
Report	Including chip position, defect type, inspection results
Cassette Selection	Programmable cassette selection and scheduling
Facility Requirement	
Dimension (WxDxH)	1960 mm x 1650 mm x 1750 mm
Weight	2000 kg
Power	AC 220V ± 10%, 50/60 Hz, 1 Φ, 3KW
Compressed Air	0.6 MPa
Operation Temperature	+5°C ~40°C
Operation Humidity	20%~60% R.H.

* All specifications are subject to change without notice.

USER INTERFACE



Detail defect raw data for analysis

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Search Keyword

7940

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